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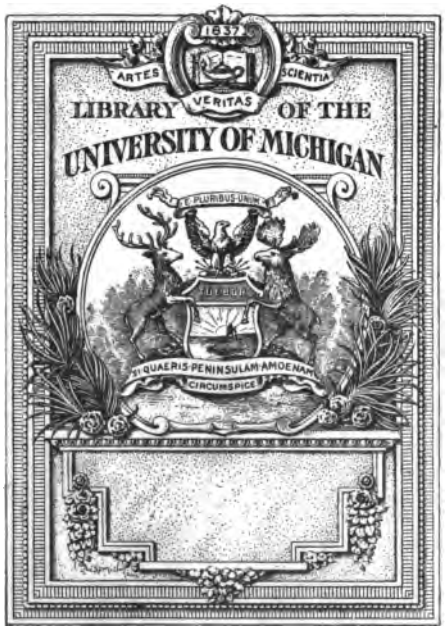
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THE

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EDITED BY

W. H. ALLCHIN, M.B.Lond., F.R.C.P.,
GEORGE COWELL, F.R.C.S.,
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SOME CLINICAL ASPECTS

OF

TUBERCULOSIS IN CHILDREN.*

By Dr. STURGES.

Children accounted tubercular sometimes recover and sometimes die, and of those that die some show tubercle and some do not. Let it be that the granulations so named are sometimes so few or so minute as to defy detection, the fact is that the sum total of children brought to the post-mortem table as tubercular is greater than the sum total of those found to be tubercular anatomically speaking. Yet the number of these latter is large enough. More than a third of our deaths at this children's hospital are in connection with tubercular development, and of these nearly three fourths are infants or young children under five.

By way of illustration both of number and age I have taken from our post-mortem records 1420 cases, without selection and mostly consecutive; 434 of these, that is over 30 per cent., are deaths from tubercle. I take further 133 children dead of acute tuberculosis, and find only 24 over five years old, and these elder children are not so much examples of general tuberculosis as of secondary or induced tubercle.† It is in infancy and early childhood therefore—from birth up to five years old—that tubercular development

* A lecture given at the Hospital for Sick Children.

† Only three or four were characteristic examples of general tuberculosis. In 6 peritonitis was the main disease, and in 6 pneumonia, in 1 tubercle was confined to the brain, and in 7 more the tubercle was also limited. It appears, moreover, from my figures that children dying of tuberculosis under five are to those dying of it from five to twelve in a proportion of 9 to 2.

has its chief activity and widest range. As life goes on tubercle more and more tends to the lung, and more and more gets complicated and confused by the introduction of phthisical changes.

Now, in the contemplation of this vast mortality, and of the main stress of it falling upon infancy, we are wont to take comfort in the belief that tuberculosis occurs thus early not from fault of ours or from any cause that is remediable, but from parental inheritance. It is the child's birthright, a process called into activity at the very beginning of extra-uterine life or even sooner. But the fact is otherwise. Allowing full margin for error, and taking into account that the parents themselves, or most of them, are as yet young, it may be asserted, upon the showing of this hospital, that inheritance is not a large but a small factor in the production of tubercular children.

Let me shortly put before you what I have found in this matter, a result quite contrary to my expectation. The cases dealt with are as far as possible consecutive. They cannot be strictly so, for many of the patients were poor and friendless children, of whom nothing was known. There are gaps and omissions, therefore, but there is no selection.

In a first series (vol. ii),* there are 95 tubercular deaths. In 34 of these no family history could be obtained. Of the remaining 61, father was phthisical in 3, mother in 6, both parents in only 1. Besides these, and going beyond the parents, there was phthisis in the father's family in 9, in the mother's family in 6, in the children in 4, and in the families of both parents in 2; both parents were healthy in 30.

In a second series (vol. iii),* there are 30 tubercular deaths. In 5 one parent (father and mother) is phthisical; 4 have phthisis in the family of one parent. There are 21 of the 30 with no phthisis known, parental or otherwise.

In a third series (vols. iv and v), 113 tubercular deaths show 21 with one parent phthisical. In 58 both parents are healthy. There are 34 without parental phthisis so far as was known, but in some of these information was meagre and indefinite.

On the whole 204 tubercular deaths (all verified by post-

* The references are to post-mortem and case-books, Hospital for Sick Children.

mortem examination) furnish 44 examples of phthisis in one parent, but one example of phthisis in both parents, and 107 examples (taking no account of doubtful cases) where both parents were healthy.

The precise weight of this testimony it is, of course, impossible to estimate without knowing what is the average proportion of tubercular relatives among London children. It is at least evident, unless our figures are grossly in error, that inheritance of itself fails to account for the enormous frequency of infantile tuberculosis.

Failing inheritance, where next are we to look for the sources of tuberculosis? If not born with the child may it not be bred by something untoward which the world supplies? It is very striking in perusing, as I have been doing for the purposes of this inquiry, the life-histories of a large number of children who have died of tubercle, to observe the deteriorating effect of measles. A child begins life with full promise of health; it has no known parental taint, but at three or four years old an attack of measles transforms it, and it presently becomes tubercular. Numerical calculations are here difficult and fallacious. It is easy to add case to case where children become tubercular after measles until the total becomes considerable. But negative facts are more often neglected than positive, and by this method the proportion of healthy children who become tubercular without measles is certain to be under-estimated. Nevertheless, it is impossible to read the clinical histories attached to our post-mortem records, it is impossible, indeed, to see much of sick children and still remain in doubt as to the pernicious effect of measles, and less frequently of whooping-cough, in regard to tuberculosis.

A like observation would apply to nervous shock and mechanical violence. It is not to be denied that these agencies predispose to tubercle, but it is impossible to say how much. The tubercular diathesis (so to speak) is found sometimes along with unusual intelligence and love of study, while tubercular development belongs especially to that time of life when the mental powers are first put to tax and exercise. Moreover, tubercular symptoms at their earliest,—sleeplessness, headache, night wandering,—are precisely

those which would be attributed, rightly or wrongly, to overstudy. And similarly in regard to physical injury. Children are in the habit of falling about, and, for lack of anything better, a fall preceding *any* illness is likely to be taken for its cause. The opportunities for error abound. Nevertheless, so often do we find both nervous shock and head injuries in close association with tubercular development that in both a causal relationship is made very probable. I take the following from my cases of this last year.

Marion B—, aged 8, was a delicate girl, but well up to five weeks before admission, when, on her way alone from school, a dog flew at her, tearing her pinafore and frightening her very much. When she reached home the child was shivering and cold, then "burning hot." Vomiting set in the day after the encounter with the dog, and it continued till her death. During her short residence of thirteen days in hospital she had frequent convulsions and vomiting, and so died, as examination showed, of tubercular meningitis.

John M—, aged 7¼, was admitted with this history: A year ago he fell while playing, hit his head against the curbstone, and was unconscious for ten minutes. He has never been well since that fall, but often complains of headache, is restless and feverish at night, and often screams in sleep. Three weeks ago he again fell, hitting his head this time against a railing. He was still sent to school, but would not play because of headache, and wasted much. Then vomiting set in; he was brought to hospital, shortly became unconscious, and died in eight days of what proved to be tubercular meningitis.

Cases of like kind could be multiplied indefinitely.

No doubt the extreme frequency of tuberculosis in young children is far from being adequately explained by reference to the causes I have mentioned. We have still to learn why the disease is so specially fatal among the poor of London and other crowded cities. Why do country children, similarly fed and clothed, subjected to the same intellectual pressure, and liable to the same accidents, fare so much better than town children in respect of tuberculosis? The answer probably is that one great incentive to tubercle development is to be found in the dark, crowded, ill-ventilated,

and often underground dwellings of the poor of London, conditions of life prejudicial to young children after precisely the same manner as they are known to be in the case of rabbits and guinea-pigs.*

But whatever the causes of tuberculosis, observe how long its diagnosis is involved in doubt, and how often it is falsified in the end, sometimes by unlooked-for recovery, sometimes by fatal relapse, when recovery seems almost assured. And even in the event of death uncertainty is not ended. The question of tubercular development still remains to be settled by post-mortem examination. Compare, for example, the two following:

Alice B—, a baby aged 17 months, was admitted into my ward two years ago (P.M., vol. vii, No. 135). Five weeks before admission she had two fits of convulsion. Since that time vomiting had been constant; the motions loose and foul, the skin sweating at night. There was severe dyspnœa, occasional laryngeal spasm, the physical signs of bronchial catarrh, and (a suggestive symptom) the child was very sensitive to touch. During its two days' residence the patient was repeatedly convulsed, the head retracted, deglutition difficult, and vomiting frequent. The diagnosis was tubercular meningitis. Post mortem, however, no tubercle was discovered anywhere, but there was meningitis, adherent pericardium, and double pleurisy. That is to say, there were three separate seats of inflammation, cerebral, pleural, and pericardial, all suggestive of tubercle, but tubercle itself there was not.†

Eva B—, aged 3½ (P.M., vol. vi, No. 63), was admitted blue and panting, with a history of six days' feverishness, cough, and diarrhœa, the child having never been strong. There were no râles in the chest and, in the words of the report, "no head symptoms and nothing definite anywhere; the

* The above observations as to the predisposing causes of tuberculosis are in no way affected by any considerations as to the relationship of bacilli to tubercle, a question which, as I venture to think, is as yet in doubt. It is much to be wished that the histologists who occupy themselves in this matter would direct their attention, not to the lungs, where the sources of fallacy are obvious and inevitable, but to the unsoftened tubercle of the acute general disease, cerebral or peritoneal, as we find it in young children.

† The converse of this may happen. There may be general tuberculosis with little or no inflammation.

speech natural." The rapid breathing continued. There was intense aversion to food, three days before death some bronchial râles were heard, and for a few hours before it there was diarrhœa. The total duration of illness was thirteen days, and the chief symptom dyspnœa. Post mortem, typical grey granulations were found in the small intestine, spleen, and liver, the peritoneum escaping. The lungs were thickly studded throughout with the same bodies, and exhibited some emphysema. The bronchial glands were enlarged and softening. In the brain the third left frontal convolution also showed miliary tubercle, and below in the cortex were some minute blood extravasations. Tubercle was found in the choroid, but there was no alteration in disc or retina, and no meningitis.

But not only do children who in life are regarded as tubercular fail to exhibit tubercle post mortem, they may fail to die, and by their eventual recovery throw doubt upon the early diagnosis. There is at this time in the Alexandra Ward a girl, Esther R—, aged 5½, who illustrates this. She was admitted as far back as March 15th for wasting and vomiting, succeeding sudden headache a week earlier. She had marked retraction of the head and abdomen, the legs were drawn up, she would cry when disturbed, avoided the light, and had a night temperature of 103°. These symptoms continuing, together with daily vomiting and rapid wasting, there was superadded on the tenth day dilatation and some irregularity of the pupils. The pulse was 140, irregular, the hands were tremulous, and the child lay in a stupor. To this succeeded tremors of the face and eyes, with occasional strabismus, but no optic neuritis. Vomiting would occur three or four times daily. There was also some diarrhœa, and the child was thin to the point of emaciation. The abdomen remained retracted. The first dawn of improvement from what appeared a quite hopeless condition occurred on the thirty-first day of illness in some diminution of the vomiting, and a week later the child had improved in all respects. By very slow degrees the patient progressed favourably; but once, at the end of June, when she was in fact convalescent, a return of vomiting, with headache and drowsiness, seemed to threaten a relapse. These symptoms, however, disappeared,

and at the present time the child, though still weak, is making good progress and gaining weight.*

A second and more striking case occurred in the same ward two years ago,† in a boy just over two years old, who, with similar symptoms to those just narrated, was not drowsy merely, but lay for a long time unconscious, and wasted to an extreme degree. Yet this child, who for full three weeks seemed waiting for death, recovered perfectly, and not long since was brought to the hospital for inspection, fat and well.

It is true that recoveries of this sort from a condition in no way distinguishable from tubercular meningitis are rare and exceptional; true also that the mere fact of recovery may be thought to throw suspicion on the diagnosis. But there is another form of inflammation which is not open to the same criticism, for it is often recovered from, and, if it be not tubercular, I know not by what name it is to be called. I mean peritonitis. Whatever may be said of so-called tubercular meningitis of the little child, in respect of recovery and of post-mortem surprises, may be said also with greater force and upon ampler proof of the so-called tubercular peritonitis of children somewhat older. For in this latter case there is actual physical evidence during life of peritoneal inflammation past or present. In the acute stage there is pyrexia, tympanitis, tenderness, and sometimes fluid in the peritoneal cavity; and in the chronic a perceptible matting together of the intestine, or the formation of tough intestinal bands. And in spite of partial and delusive recovery, many of these children no doubt die eventually, and die of tuberculosis. But of all the inflammations regarded as tubercular it may be confidently asserted that peritonitis is the least fatal. I look back upon the latest examples of the disease occurring in my own practice

* Since this was said the child had a second relapse, and eventually died six months after admission, the autopsy revealing old meningitis, but no tubercle. The following is an extract from the post-mortem notes by Mr. Priestley: "Dura mater non-adherent. Convolutions flattened, and lobes bounding Sylvian fissure adherent to each other, but separable. Lateral ventricles much distended with clear fluid; some greenish lymph in each posterior cornu. No disease of middle ears. After careful search no tubercles were discoverable anywhere."

† This case is more fully related with some others in the first volume of these 'Reports.'

here. Taking eighteen of the last year half are over six years old, and only six are under five. They are older, that is to say, than either the cerebral or the pulmonary cases. And what strikes attention is their chronicity. The symptoms at the first bear a close resemblance to enteric fever (with which disease in its less characteristic form I believe that tubercular peritonitis is not seldom confounded from first to last), and in the later stage abdominal distension, irregular night pyrexia, and slow intermittent wasting are the main symptoms. They will often improve in general respects and gain weight while the abdominal distension remains unrelieved. As a rule, improvement is so slow that the parents lose patience, and the children are removed and lost sight of. Of the eighteen patients I am now quoting only four died, and two went out unimproved; the rest improved in various degrees.

And observe, as we have seen in meningitis so here, the child may die and show inflammation of the "tubercular" sort, yet the actual material of tubercle be absent.

A little child was admitted into my ward for diarrhœa and wasting. It had distended abdomen and the other familiar signs which are supposed to indicate tubercular enteric disease. And in the right iliac fossa, very apparent owing to the extreme thinness of the patient, an elongated, movable and softish ovoid mass could be felt. The child died, and after death this mass was found to consist of adherent coils of intestine involving the cæcum with some small intestine and enlarged glands. There was a small ulcer in the ileum, but there was no tubercle anywhere.

What conclusions are to be drawn from these facts? When we see patients with symptoms, generally accounted "tubercular," whether cerebral, pulmonary, or peritoneal, sometimes recovering and sometimes not; when of those that die some exhibit tubercle and some do not, we are inevitably led to consider, or if you will to reconsider, the precise position which these bodies occupy in that general disease called tuberculosis. The question must arise, *When does the tubercle itself come; and how are the local inflammatory signs related to their event?* There are, I submit, clinical facts enough to compel the admission that the array of symptoms commonly called

"tubercular," including the local inflammation, may precede and herald, nay that they do habitually precede, the actual appearance of tubercle. Tubercular inflammation may anticipate tubercular development. The local symptoms, like the constitutional, are at the first, or are often, no more than a warning of tubercular invasion, of a danger which, if not disregarded, appropriate treatment whether by climate, diet, or even drugs, may in some cases succeed in averting.

That tubercle may be excited by a process of infection due to the neighbourhood of caseating glands or pneumonic phthisis is commonly taught, but I do not know that anyone has explicitly stated that in certain predisposed persons, chiefly children, serous and mucous inflammations familiar to us as the active agents in tuberculosis may precede the actual development of tubercle. Yet no less than this is clearly inferred by writers of the highest authority, in reference to their own personal observation. Let me quote a single example. It will be admitted, I suppose, that for accuracy in fact and caution in conclusion there is no physician of our time who excels Dr. Walshe. Now, in speaking of acute phthisis (a matter in itself foreign to the present question) Dr. Walshe likens it in physical respects to double pneumonia running on to suppurative destruction of tissue, and points out that the diagnosis of this latter condition "would have been revealed at first by the signs of its early stage." He adds, however, significantly in a note to this passage the following: "Pneumonia may, however, exist at first, furnish its own signs in more or less perfection, *and give place to acute tuberculisation.*"* The italics are mine, and here is the very formula I would beg leave to adopt. The pneumonia which ends in tubercle is like the meningitis or the peritonitis which has the same issue. So far indeed as pneumonia is concerned, this termination in tubercle is very rare,—it indicates a strong predisposition to tubercle on the part of the patient. But in the other case the mere occurrence of meningitis or peritonitis of itself points to a tubercular tendency. But while it properly excites fear lest tubercle should develop, it does not of itself warrant the presumption that it is already present.

No one who desires accuracy can be much in love with

* Walshe on the 'Heart and Lungs,' p. 546.

the phraseology which this hypothesis renders necessary. "Tendency" and "predisposition" and "vulnerability" are vague words, like many others with which we are already overstocked. Yet, for the present, these provisional terms are the best procurable, they fitly express the plain teaching of nature, and bid us recognise facts which as yet await explanation.

The facts are plain however faulty the language, and they are these: Affections of children, which we are in the habit of calling "tubercular," speaking clinically, are to a large extent preventable, and to some extent curable. The early diagnosis of tubercle, and especially of cerebral tubercle, is always uncertain. There is a pre-tubercular stage of inflammation, it is amenable to treatment, and capable of recovery.

It remains to consider in the last place, and very briefly, the means we possess of influencing favourably the progress of these inflammations of childhood, which seem to be tubercular, but are not necessarily fatal. I suppose the old treatment by mercury and bleeding, which for a long while has held its ground timidly* and apologetically, is now as good as dead. Want of faith in such methods, long half concealed, was first definitely asserted in the case of pneumonia; it has now extended to pericarditis, and will soon be generally accepted. It is true that, as a survival of the old practice of mercurial salivation and inunction, grey powder is now given in tubercular meningitis, sometimes alone, sometimes with a more direct purgative. That there is good in this traditional custom I do not presume to say. As for purgative and laxative drugs, the indications for their use in the several forms of tuberculosis depend, in my belief, on certain well-known principles, which are widely applicable, and not upon

* "Avoid precipitancy in what you do, and do not let your apprehensions betray you into that over-activity which is sometimes more fatal to a patient than his disease. If you feel any doubt as to the necessity of depletion, visit your patient again before determining on it, but do not delay that visit too long. Order a dose of calomel, to be followed by some sulphate of magnesia if, as is most probable, the bowels be confined, and return again in three or four hours. . . . The child's state may be the same, and you may still feel uncertain as to the right course. In that case at once obtain the assistance of some other practitioner."—Dr. West's 'Lectures on Children,' 4th edition, 1859.

any specific virtue they possess in relation to tubercle. All that need be said of them in such use is that it needs caution, both on account of enteric ulceration, and on account of the likelihood of mistaking enteric fever for tubercular disease. And as with drugs so with food. There is no special mode or material of nourishment proper for tuberculosis which is not also proper, *cæteris paribus*, for other pyrexial children of like age. In a word, as I have insisted in the case of phthisis, there is no special treatment for tuberculosis; there is a great variety of treatment for particular patients suffering from tuberculosis.

Yet two words may be said in respect of treatment, whether by food or medicine. They refer chiefly, but not solely, to meningitis. First as to food. With the constant and prompt vomiting so common in the affections we have been considering, and especially in meningitis, feeding soon becomes impossible. It matters not what the nature or consistence of the intended nourishment, all is rejected alike and at once, insomuch that the patient goes for days unfed. At the present time, more particularly with the many resources and preparations at hand designed to promote or to save digestion, valuable time may be lost in the vain attempt to discover something that will really nourish, however sparingly. The absolute intolerance of the stomach is too slowly recognised. In such extremity I have convinced myself by repeated trial that it is best to leave the stomach alone, and to feed for awhile entirely by means of nutrient suppositories. Rectal alimentation has been brought of late years to great perfection, and I have repeatedly found, after a day or two of such feeding, that the stomach, left at rest for that time, will resume its function, so that the form of nourishment (whatever it may have been), which was found to suit best and longest at the earlier stage of the illness, may be now cautiously resumed. Upon the success of such measures may depend the life of the child, for it cannot be doubted that in some instances it is starvation that helps to kill.

The other word concerns medication. For some years I have constantly employed the hypophosphite of soda, in doses of ten to twenty grains, with quinia and phosphoric acid, in all cases of suspected tuberculosis. And in meningitis more

especially I believe the drug to be useful. Whether or not I am mistaken in this estimate, time and the observation of others will show. At any rate, my experience is now large enough to enable me to say confidently that it may be given with safety, in such doses as I have mentioned, to very young children.

THE ANTECEDENTS OF PLEURISY.

By Dr. DONKIN.

The substance of the following remarks on the clinical position of pleurisy has purely a practical bearing, containing nothing new, and perhaps nothing very contestable. I have over and over again insisted on the almost universally secondary character of pleural effusions, both in lectures and bedside teaching, since experience has forced upon me the conviction of the general truth of the statement; and I venture now to write this short paper for the reason that I believe this point, though recognised, is not sufficiently emphasized in most text-books, and that it is one of considerable practical importance in prognosis. What I say is intended as a reminder and help in practice, and makes no claim whatever as an addition to medical knowledge.

It is a constant experience to find both practitioners and students perfectly satisfied with the diagnosis of pleural effusion when such a condition has been established by physical examination, and seeking no further for the cause or antecedents of the case before them. If asked any question on the point they usually refer to "cold" as an adequate explanation; and in the absence of any marked previous illness or, as the phrase runs, "complication," are not troubled much about prognosis. A pleurisy of this kind is to them a simple pleurisy, and it is "nothing more." The isolated position accorded to pleurisy in most text-books, the scanty

consideration of its ætiology, and, still more, the prominently insisted upon differences of the physical signs of "pneumonia" and "pleurisy" in elementary clinical teaching, are largely the causes of the practical errors into which so many fall in dealing with cases of pleural effusion. I do not think I am wrong in saying that most students, and a very large number of practitioners, regard pneumonia and pleurisy as quite co-ordinate in nosological position, and look upon the latter as at least as ætiologically independent as the former. In other words, they believe that they explain a pleural effusion by calling it "pleurisy," in as great a degree as they might explain a certain acute consolidation of lung by calling it pneumonia. Now, without going into any consideration of what a primary disease is, if such a term may be ever allowable, we may be content to admit, for practical purposes, that at any given stage of medical knowledge we must recognise certain affections as provisionally primary,—as being traceable back to a certain antecedent condition or set of conditions, and no farther. Of such, for instance, are acute rheumatism, tubercle, pneumonia, the so-called specific fevers, *cum multis aliis*. But not of such is, I repeat, pleural effusion. I am aware that it is difficult, and that it would be perhaps impossible, to prove that there is no such thing as what is called primary pleural effusion, due, say, to cold, and I am aware that some great authorities teach that such an occurrence is very ordinary; but I am well convinced by observation and experience that such teaching is dangerous and misleading, and that most of these pleurisies, whether due to "cold" or not, are either more or less obviously connected with discoverable antecedent conditions, or are markedly "complicated."

The clinical relations of pleural effusions may be conveniently studied in two broad classes: those occurring in adults, and those, which form a very large class, that are incident on early childhood. My own belief on the subject was formed at first and mainly on cases occurring in adults; and it is in this class of cases where I think the least amount of doubt is legitimate as to the almost universal secondary character of pleural effusions, and where, when this point is ignored or forgotten, the greatest number of disastrous mis-

takes in prognosis are made. I have made many errors myself owing to this point having never been brought before me while a student, and am constantly seeing similar errors committed now.

The following are the chief classes of pleural effusion occurring in adults, many of which, owing to their often obviously secondary nature, need not be finally enlarged upon. At the end of this paper I shall touch upon the pleural effusions of early childhood, which, though covering to a great extent the same ground, may be advantageously considered, from a clinical point of view, by themselves.

1. *Pleural effusions, serous or purulent, which occur in the course or as the sequelæ of fevers, such as measles, scarlet fever, enteric fever, and in other septic diseases.*—These may be called septic pleurisies, and are usually recognised as such.* I have, however, seen several cases of this kind, when the pleural effusion has been marked, and the original malady has been very slight or almost unrecognised, where the pleurisy has been regarded as idiopathic. An error here in prognosis is not always likely to be very grave, as several of these cases end in perfect recovery. The general error that I am contending against is that of giving a too favourable prognosis in cases of apparently simple pleurisy.

2. *Pleural effusions which take place in cases of Bright's disease of the kidneys, and in other abnormal blood conditions.*—Most of these give rise to no error, as they form most frequently a late chapter in a long morbid history. They may be serous or purulent. Occasionally a serous pleural effusion taking place in a patient who is the subject of unrecognised Bright's disease may give rise to a grave error in prognosis, where the examination of the urine has been omitted and the case has not been submitted to a careful and general clinical examination.

3. *Pleural effusions which are the result of mechanical injury.*—These are by no means uncommon, even when there is no outward evidence of lesion of the ribs or thoracic walls. A pleurisy arising in these circumstances is only in danger of

* As regards, however, the pleurisies which follow on measles I have some modifying remarks to make farther on, under the heading of pleurisies in childhood.

being regarded in an over-grave light by those who are convinced of the rarity of idiopathic pleurisy; so here again, when the real cause is undiscovered or overlooked, the error in prognosis is not likely to be important. If such a pleurisy be regarded as idiopathic—and I have met with more than one case where this view has been taken—the usual favourable or almost careless view is taken by many practitioners, and the event of such cases serves to corroborate their view of the frequently idiopathic character of pleural effusions. The lesson I have learned from experience is, in certain instances where careful observation and inquiry into antecedents have failed to explain the case, always to inquire as to the occurrence of any direct injury to the thorax. I have on several occasions relieved my mind of doubts as to the tuberculous nature of pleural effusions by obtaining a clear history of a fall or a blow immediately preceding the occurrence of the symptoms and physical signs of a pleural effusion in apparently healthy individuals.

4. *Pleural effusions which are the result of direct extension of an inflammatory process from neighbouring structures* either within or without the thoracic cavity, or from disease or lesion in organs below the diaphragm. Such effusions are observed as following abscesses and operations, or succeeding to a peritonitis. Perhaps here may be mentioned certain cases of pleural effusion which seem to be extension from a pericarditis, but I shall allude to this presently when considering the important class of "rheumatic pleurisies."

I come now to those classes of pleural effusion which in my belief cover almost all of the cases that are so often regarded as primary or idiopathic, though a considerable number of them are widely known and recognised as secondary. These are the pleurisies occurring with, or in connection with, rheumatism, pneumonia, and tubercle.

5. *Rheumatic pleural effusions.*—By this term I do not mean the same as I apprehend is meant by several authorities, and notably some German writers, who apparently use the word "rheumatism" with so wide a denotation as to be almost meaningless, or what comes to the same thing, as synonymous with "cold," but I would confine it mainly to those cases which occur in patients who are or have been the

subject of definite articular rheumatism, or, in the case of children (of which more hereafter), of endo- or pericarditis of most probable rheumatic origin. In contending for the non-simple or rheumatic origin of many of these cases of pleural effusion I am aware that one trenches on debateable ground. It is not, perhaps, very common for a pleural effusion without a pneumonia or pericarditis to occur *in the course* of rheumatic fever, but an apparently uncomplicated pleural effusion does sometimes so arise, and not infrequently occurs some time after, and apparently independently of, the acute rheumatic attack. The point I would make here is that very often what seems to be a simple primary pleurisy is found on inquiry to have been preceded at some time by definite rheumatism, and not infrequently may be the first recognised herald of some other rheumatic symptom.

6. *Pleural effusions occurring with pneumonia.*—This is a far larger and far more important class of cases, and supplies a very large contingent to the reported instances of simple or idiopathic pleurisies. It may seem to many quite superfluous to dwell on this well-recognised fact in clinical and pathological medicine, but the constant ignoring of such facts is, I think, an ample excuse, bearing in mind the purely practical object of these remarks. It would probably be surprising to those who are accustomed to regard pleurisy as a disease *per se* to learn how many cases of pleural effusion that come before us as such have started in a definite way with the usual symptoms of a pneumonia, and have moreover shown at the early stage of the affection the definite course of a pneumonia, with the subsidence, either complete or partial, of temperature at the usual period, and the disappearance of the characteristic pneumonic sputa. Histories of cases too when the onset of the malady is long before the patient comes under observation very often point clearly to the overwhelming probability of a pneumonic origin. Such effusions as I am referring to may, it is well known, be serous or purulent, perhaps the most familiar examples of these purulent pleurisies in adults being those which occur in the course of pneumonia in alcoholics. It is by no means infrequent that in the pleural effusions resulting from pneumonia the physical signs of the effusion may very early, and perhaps

before a complete examination can be made, completely obscure those of consolidated lung. I shall refer shortly to the subject when speaking of the pleural effusions of childhood.

7. *Pleural effusion, most often of a serous character, connected with phthisis, or at least tubercle.*—Clinically, perhaps, and especially from the point of view of prognosis, this is by far the most important group of all the pleural effusions which are so frequently mistaken for primary events. There is perhaps scarcely a greater stumbling-block to the practitioner than this class of cases, and the blunders made in prognosis on this head are legion. It will doubtless seem to many, perhaps to all, careful workers in clinical medicine that these remarks again are superfluous, but I think they are justifiably made, especially for the benefit of students and young practitioners, when one takes into account how little this point finds emphatic expression in text-books, however well known it may be to their authors. It is especially this class of pleurisies that has for years impressed me with the sense of the grave importance that accompanies a diagnosis and prognosis of pleural effusions. It is unnecessary, of course, to dwell upon the well-known frequency of pleuritic affections, with and without liquid effusion, in the course of phthisis. No clinical or pathological incident in phthisis is more widely recognised. But I refer especially to cases where a patient comes under observation for the first time, either suffering or having recently suffered from the usual symptoms of an attack of pleurisy, or with the well-marked signs of a pleural effusion. I have in my memory and my note-books many instances of cases where, such being the condition of things, a careful examination of the chest has brought to light at first no evidence of any destructive disease of the lung, but where in the course of time, the liquid effusion having been removed either by the ordinary process of absorption, or by aspiration, some definite physical signs at the apex of the lung of the affected side have been detected. And this may occur even when the patient's state gives rise to but little, if any, suspicion of a phthisical process. In other cases the first physical signs may be detected (I do not say that in those instances the morbid process necessarily occurs first there) in the other lung. Many cases of this kind are regarded very

lightly by practitioners and the public, but the event of them soon brings home their error to those who have given too confidently a good prognosis. I could relate many instances of phthisis, running afterwards a very rapid course, where the patients' friends have remarked that the doctor said it was "only pleurisy," and where medical authorities have doubtless made this statement. Certainly in many, perhaps most of these cases, a really careful inquiry will establish a pre-existing state of ill-health, suggestive in a greater or less degree of tubercular disease, some time before the signs or symptoms of a pleuritic affection are found or complained of: even as is the rule almost in all cases of phthisis which first come under medical observation: and frequently too an hereditary or collateral history of tubercular disease coexists to help the careful inquirer. But the fact remains that, examine and inquire as one may, a considerable number of cases occur in which the symptoms and signs of a pleural effusion constitute the first overt fact which denotes and is followed by consumption of the lungs. One case only, out of many which I could quote, I will relate out of my personal experience, before alluding to a recent and important paper by two French physicians on this subject. Some years ago I saw a young medical man, with whom I was well acquainted, and who had been apparently in thoroughly good health till the time he came to me, suffering from a pain in his right side on drawing breath. Examination revealed friction-sound and a slightly raised temperature. In the course of two days he had the signs of a large pleural effusion. The rest of the chest gave no sign of any pulmonary mischief. I examined him with especial care, because he was apprehensive of phthisis, several members of his family having been the subjects of that disease. The effusion after a week became somewhat less, rapidly diminished in the course of the next three weeks, and though at the end of that time the percussion note was nowhere good over the right chest, there were no positive morbid signs to auscultation, either in the nature of the breathing, or in the presence of any added sounds, with the exception of some apparent friction-sound in the lateral region. The left chest still appeared normal. He went away for six weeks to the country, led an out-door life,

and came back to work saying he felt much better. But he coughed more, and was beginning to expectorate. On examination, I found slight signs of softening at right apex, and on inquiry ascertained that he had sweating at nights. The signs rapidly increased, the left lung soon showed similar evidence of disease, and he died in the course of about six months after his return from the country.

Important and interesting evidence of the great frequency of a tubercular origin of many apparently simple pleurisies is given in the paper to which I have just alluded, which came under my notice while preparing the present remarks. The title of the paper in the 'Archives de Physiologie' for 1886 is "Recherches sur les lésions anatomo-pathologiques et la Nature de la Pleurésie," par MM. Kelsch et Vaillard, Professeurs au Val-de-Grâce. These writers make no claim to originality in the following statement of their opinion at the outset of their essay: "Toute pleurésie qui n'est ni septique ni rhumatismale, qui ne relève pas d'une dyscrasie des humeurs ou d'une dégénérescence cancéreuse de la plèvre est dans l'immense majorité des cas tuberculeuse." They allude to Villemin, Bernutz, G. Sée and several others who have taught this before, mainly from the clinical point of view, not to mention Laennec himself, but they claim to have given fresh evidence of the truth of their teaching from the point of view of pathological anatomy, several cases of tubercular pleurisy, apparently simple from the clinical side, having come before them in the post-mortem room. Their paper abounds in interesting examples. The gist of it may be summed up in their own words, that their examinations have shown evidences of many pleurisies which have either got well or were in the course of getting well when the microscope has revealed degenerate tubercular nodules among the membranous deposits in the pleural cavity; and they add that in these cases, had the patients not died either from syncope or from some intercurrent disorder, the pleural affection would have been regarded as simple, especially so as it occurred in individuals whose previously good health and vigorous constitution discountenanced any suspicion of tuberculosis.

In another part of their paper the writers give evidence, from extensive statistics, of the great improbability that

"cold" as such can be regarded as a cause of pleurisy, and show that the maximum incidence of pleurisy is not connected in any regular way with meteorological or geographical conditions. The whole paper is deserving of careful study and seems strongly to bear out the above contention of the generally secondary character of pleurisies. I may mention here that the authors of this essay seem to me to use the words "septic" and "rheumatic" in a wider sense than is common among English authorities. If this be the case I see nothing in their paper from which I materially dissent, though perhaps to most English minds the definite and dogmatic assertion which I have quoted from them may appear too clear to be true. I am of course aware that whatever clinical and pathological evidence can be adduced in support of the views above espoused is open to argument, and may ever remain so; but to justify once more what may appear to some to be supererogatory remarks I would remind my readers that no less an authority than Dr. Fagge, in his invaluable work on Medicine, says, under the heading of the Ætiology of Pleurisy, "I have left to the last the causes of pleurisy, because the symptoms, the diagnosis, and the treatment of the disease can be studied without reference to them." He says but little on the matter of prognosis in pleurisy, and ranks "cold" as foremost among its causes.

I shall now proceed to consider shortly the subject of pleural effusions in childhood, from the point of view of their antecedents. This clinical class of cases may well be studied by itself; for what appear at first sight to be, and may be, according to many authorities, primary pleurisies, occur in by far the largest numbers in young children. It would be a very difficult and perhaps impossible task to try to draw from hospital statistics anything like an exhaustive chapter on the ætiology of pleurisies in young children. A very large majority of pleural effusions that come under notice in hospital practice (and it is in the hospital class of patients that pleurisies in childhood are by far the most common) are not seen till the clinical nature of the onset of the disease is lost in the obscurity of non-observation or forgetfulness on the part of the parents, or non-recognition on the part of the doctors. We should therefore not be surprised at the large number of pleurisies recorded in our note-books which are regarded as without

ascertainable causes or antecedents. But in view of the light thrown on the antecedents of pleurisy by its incidence on adults, and from the not inconsiderable amount of cases where definite antecedents can be established in childhood, I cannot help strongly demurring to the prevalent teaching on this point, and to the resulting opinion of the majority of practitioners who do not claim to teach, that in a large number of cases the pleurisies of childhood are primary and independent of previous disease. I may mention on this point that two of the more recent text-books on diseases of children give evidence that the following remarks are not entirely out of place. One of the very best authorities on these matters, while giving due weight to nearly all of the known antecedents of pleurisy in childhood (with, I think, only one important failure as to the *due* weight given, *i. e.* in the case of *pneumonias*) is still of opinion that, considering the greater number of cases in which no cause is assignable, idiopathic pleurisy is not very uncommon. (This whole paragraph is so full and clear, and so carefully written, that it is with the greatest diffidence I venture to differ from the concluding statement of opinion; and all the more so because I know that I cannot prove by statistics the opposite opinion that I strongly hold.)* In another important text-book† it is stated that pleurisy in childhood may be either primary or secondary; that in the first case it is very often due to chill; and that "secondary pleurisy may arise from extension of inflammation from the lung, the pericardium, or the peritoneum." In the last sentence is contained the only reference to what I am about to contend is perhaps of all causes the most common of all pleurisies in childhood, *i. e.* inflammation of the lungs, including true pneumonia, and the catarrhal affection which in its physical signs, though not in its course, so closely resembles true pneumonia in childhood. And here I would remark in passing that the pleurisy which is perhaps the invariable concomitant of true pneumonia even from the outset, as we learn both in the post-mortem room and the wards, can scarcely with justice be called an extension of inflammation from the lung to the pleura.

I believe that pneumonia (pleuro-pneumonia) and broncho-

* I refer to Dr. Goodhart's book on 'Diseases of Children,' article "Pleurisy."

† Dr. Eustace Smith on 'Disease in Children.'

pneumonia are by far the most common causes of pleural effusions, apparently primary, in young children, and that next to that tuberculosis plays the most important ætiological *rôle*. I shall endeavour to give some support to this expression of opinion from my hospital note-books, and then deal as far as I can with the large number of cases either obviously secondary to other maladies, or those which must be admitted to own no definitely assignable cause, however probable it may be that one of the already mentioned causes may be inferentially attributed to them.

Taking 108 consecutive cases of pleural effusion in childhood from the case-books, I find, under the heading of lobar pneumonia on admission (or, as I prefer to call, it pleuro-pneumonia, irrespective of the physical signs being those only of pneumonia), 12 cases resulting in well-marked pleural effusions, 10 of them being empyemas. Following on broncho-pneumonia on admission, or what I think practically amounts to the same thing, following on measles a few weeks before admission, and admitted as "pleurisy," I find 23 cases.

I say that a recently preceding broncho-pneumonia or a recent attack of measles amounts to the same thing, because broncho-pneumonia is so exceedingly common in measles that it may be almost regarded as the connecting link between measles and pleural effusion, when such occurs. Measles plays, as far as statistics go, an immensely more important part as an antecedent to pleurisies than scarlatina, which, however, as I shall afterwards remark, is probably, for certain reasons, very imperfectly represented as an antecedent to pleurisy, in all statistics whatsoever. But whatever view may be taken, and neither can be proved, as to the relative causative power of broncho-pneumonia and measles in relation to pleurisy, and even if the pleurisies following measles are, with some authorities, regarded as "septic," my contention remains valid that this class of pleurisies is obviously secondary, and that the class is a large one).

Of the remaining 73 cases I find that 31 are noted to have begun to suffer at some definite time, varying between a few days and a few months, from pain in one side or in the abdomen, all these cases being admitted with the physical signs of pleural effusion, the majority of these being empyemas.

Of these 4 were definitely rheumatic (as proved by concomitant signs), 6 were definitely tubercular, being concurrent with peritonitis or meningitis, and 2 were definitely connected in time with a fall and a blow respectively. Of the rest of these 31, 10 had been always delicate and ailing in various ways, wasting, coughing, &c., for several months or even years previously to the acute attack, and of 12 only it is stated that they were quite well before the attack for which they were admitted. There remain 42 cases of which the origin is lost in obscurity, most of these having been ill for months, with or without coughing, many with the history of "never well" since whooping-cough or measles some years ago, or the illness being referred to a cough of great antiquity. Now, this very undefined class of cases may be regarded in as many ætiological lights as experience, or bias, or logical power, or the want of it, may induce various observers or writers to throw upon it. I would only maintain that, considering the appreciable number of instances, though a minority, in the above short compilation from 108 cases, where some definite antecedent cause can be shown, and considering furthermore that it is at least highly probable that most of the 31 apparently acute primary cases were really pneumonic in origin when they were not traumatic or rheumatic or tubercular, a very good case is made out from these statistics against the belief that the class of nondescript pleurisies (42), large though it be, is fairly to be regarded as composed of idiopathic or primary cases. Add to this the great amount of evidence there is in the post-mortem room, from the examination of chronic cases of apparently simple empyema, of the connection of tuberculosis with this diseased condition, and the case against the frequent occcurrence of primary pleurisies is to some extent still further weakened. I am personally well convinced that by far the larger number of these chronic pleural affections are the result of lung affections of old date, many of them being the outcome of an attack of measles.

I must add a few words on the subject of the causes of *empyema* in childhood as considered apart from serous effusions. Empyemas, as far as I can gather, are very generally regarded as secondary; here there is not much excuse for controversy. It is furthermore generally taught that scarlet

fever plays an important part in the etiology of the empyemas of childhood, and I am in the habit, in agreement with most authorities on the subject, of placing scarlet fever very high among the causes of empyemas which have appeared to be such from the first. It may be surprising to many who have not inquired statistically into this point to find how very few cases of empyema in hospitals for children can be referred to scarlatina as their cause, judging from the facts recorded in the note-books; and the records of cases of scarlet fever in the large fever hospitals give next to no support to the occurrence of empyema as a sequela to that disease. But those who have had opportunities of watching cases of scarlet fever for a continuous period after the attack have good reason to adhere to the belief of empyema being a not infrequent result, and there is a sufficient frequency of a history of scarlet fever very shortly preceding the not very large class of apparently acute and primary empyemas to strongly corroborate this view. I believe that the very scanty evidence *from hospital records* of this relationship between scarlatina and empyema is due to the fact of a very large number of cases of scarlatina in the poorer classes being entirely overlooked, the disease being often so slight, the general symptoms so little marked, and the rash often so evanescent. It is different in the case of measles, which rarely, if ever, escapes observation, even apart from medical inspection, not only because of the rash being generally more obvious, but also because of the usually well-marked catarrhal symptoms. A further explanation is also found in the likelihood of the occurrence in many cases of previous scarlet fever having been forgotten, the pleural affection for which the child is admitted not having become prominent till several weeks after the attack of fever. I have known many such instances where previous scarlet fever has been established, either from a long remaining desquamation or merely on inquiry, this subsequent piece of information not having found its due place in the note-books. The absence, moreover, of empyema as a noted sequela of scarlatina in the large fever hospitals is, I believe, likewise due to the fact of the pleural symptoms not becoming prominent till after discharge, or to the chest not being examined.

But be this as it may, I would again emphasize the belief that a very large proportion of empyemas in childhood are the result of pneumonia or broncho-pneumonia. At any age indeed the cases that many have been and are still taught to regard as "unresolved pneumonias" are undoubtedly pleural effusions, and in most cases, in childhood, empyemas. A lingering dulness at the base of a lung after a pneumonia, especially if that dulness extends into the lateral region, is in an immense majority of cases ætiologically cleared up by the detection of fluid by the exploring syringe, and this may be more than suspected, without exploration, by an experienced clinician. The study of pleurisy thus contributes importantly, I think, to the establishment, in pathological matters, of the old maxim, *Causæ non sunt multiplicandæ præter necessitatem.* We must always endeavour to reduce as much as possible the number of so-called idiopathic or primary diseases in our nosology, tracing them back, as far as observation and careful inference will permit, to more general causes. The tendency of modern pathology would seem to set strongly in this direction, teaching us that disease does not spring up "ab intra" in healthy bodies, but is mainly environmental in its origin. This truth is finding more and more illustration in all departments of medicine, and not the least in the widely different fields where the neurologist and the bacteriologist experiment and observe.

[P.S.—I have been unable, before sending this paper to press, to tabulate a considerably larger series than those above quoted of cases of pleural effusion from my hospital note-books. After glancing over them, however, I may state that they might be classed as above in much the same proportions. For valuable help in extracting the cases to which I have alluded I desire to record my thanks to Mr. Brett, late Resident Clinical Assistant at the East London Hospital for Children. I have also to acknowledge the aid afforded me by my friend Mr. F. N. Hume, of the South Eastern Fever Hospital, by his references to the extensive records of that institution.]

ON EXTRACTION OF CATARACT

AND

RHEUMATIC SCLERO-KERATITIS.

By N. C. MACNAMARA.

Extraction of Cataract.

It is just twenty years since I published the first edition of my work on diseases of the eye; in this volume, page 480, under the heading, "As to the operation we should select for the removal of a cataract," I remarked, with reference to performing an iridectomy in extraction, "that if we could satisfy ourselves that excision of the iris is not necessary, the range of our selection of operations for the removal of an opaque lens might be much curtailed." I further wrote that most surgeons will agree with Prof. von Graefe when he states ('Ophthalmic Review,' vol. i, p. 252), that a patient after iridectomy "suffers certain disadvantages in vision in comparison with persons with a central pupil. These disadvantages do not apply so much to the acuteness of vision as they do to the dazzling caused by light." "It may, however, be argued, if iridectomy decreases the danger of extraction, is it not better to run the risk of having an imperfect eye rather than no sight at all?" This would, no doubt, be sound reasoning, if we had not a very good chance of curing our patients without an iridectomy; but let

us again refer to von Graefe on this point. In January, 1863, he stated in the lecture above quoted: "I calculate that out of every hundred extractions, sixty-five yield perfect results. Of the remaining thirty-five, fifteen yield perfect results from after-operations;" so that 80 per cent. of von Graefe's patients were cured by means of the old flap operation, without iridectomy. Nor is this all, for he goes on to say: "Much more favorable statistics might be adduced under particular circumstances, *e.g.* my own would be more than twice as favorable if I only included those patients who were operated on in the private apartments of my Institution." Evidently, therefore, all von Graefe's private patients must have recovered after flap extraction, and no fewer than 80 per cent. of his pauper patients gained admirable vision, its acuteness being from one fourth, or in persons beyond sixty-five, one sixth.

Prof. von Graefe stated that "iridectomy affords no protection against general or partial suppuration, but disposes the latter to a more favorable termination; it prevents, up to a certain point, primary iritis and prolapse of the iris." Considering, therefore, that iridectomy has only an influence for good, according to Graefe, and has a positively detrimental effect upon the perfection of vision, though not on its acuteness, and weighing these circumstances in the balance against the admirable results above quoted in favour of the old flap extraction, I must say my own inclination and experience strongly tends towards the operation which enables me to remove the lens without excising any portion of the iris. I can hardly understand, after Graefe had pointed out the imperfection of vision due to iridectomy, and the doubtful way in which he speaks of the advantages of this proceeding in combination with extraction in 1863, why he should in 1866 have declared that his new operation of linear extraction, or rather section, with a large iridectomy, "may be accepted and practised to the entire exclusion of the flap method of operation." Nevertheless, so apt are we to follow the lead of men in the position which von Graefe occupied, that for many years, in fact up to the present time, his well-known operation for extraction has been almost universally followed by surgeons in this country and on the Continent,

but as I wrote in 1868, I have continued to extract cataracts without an iridectomy, for there can be no question that in surgical operations we should avoid, if possible, removing healthy tissues. Consequently, our aim should be to extract the opaque lens from the eye, leaving a central and contractile pupil, rather than to remove the cataract, plus a fourth of the iris. Having held these views so long and acted upon them in my practice, it is satisfactory to find that there is now a gradual return of professional opinion in favour of the old operation for extraction of cataract.

Prof. H. Knapp, writing for the 'Archives of Ophthalmology,' vol. xvii, of 1888, remarks that, as regards the method of simple extraction, two authoritative voices in Germany have pronounced themselves in its favour. They are Prof. Schweigger, of Berlin, in his paper on the "Return of the Flap Operation," and Professor Sattler, of Prague, and Dr. Meyer, of Paris. In America, Bull, Webster, and Noyes are distinctly in favour of extraction without iridectomy, and in England one not unfrequently meets with oculists who are giving up Graefe's operation for that which was formerly known as the flap operation, the section in the cornea being made either by means of a Beer's or a narrow-bladed knife, no excision of iris being practised.

A solution of cocaine (4 per cent.) is applied freely to the surface of the eye to be operated on, every three or four minutes, for about five times immediately before the operation. Anæsthetics, unless in exceptional cases, are never employed now during the operation of extraction.

I do not propose describing the method of proceeding to be followed in the flap operation for the removal of cataract,—it has been admirably detailed by Mackenzie and by numerous writers since his time. But I would remark that the greater my experience the more convinced I am that our aim should be to remove the opaque lens in its capsule. Whether this is done or not, a free opening should always be made in the cornea, so that the lens may pass out of the eye without bruising or injuring the surrounding tissues in its passage. Lastly, it is impossible to insist too forcibly on the necessity that exists for adopting strictly antiseptic precautions in all the stages of this operation. We must do everything in our

power to keep bacteria out of the wounded eye, and as we cannot see them, it is safest, both before and after the operation, to wash the surface of the eye carefully with germless, unirritating liquids, such as distilled water, boric acid solution, or other indifferent substances dissolved in pure water. And so with the instruments, they should be disinfected before being used; and then, excluding accidents, provided we have left no hard cortical matter within the eye, we may be almost sure that the section in the cornea will heal in the course of a few days, and the parts return to their normal condition without inflammation. I invariably, before bandaging the eye after extraction, drop a solution of eserine upon the conjunctiva, my object being to make the pupil contract, and so keep the iris away from the section in the cornea.

Rheumatic Sclero-Keratitis.

During the long winter we have passed through, I have seen a considerable number of cases of rheumatic affections of the sclerotic and cornea, a condition hardly referred to in modern works on diseases of the eyes, but which it is important to diagnose and to treat correctly in its early stages, otherwise permanent injury may be done to the affected eye. Whatever the cause of rheumatism may be, it evidently has a marked tendency to produce hyperæmia of the connective-tissue series of structures, and among them the sclerotic and cornea.

Rheumatic sclero-keratitis is most frequently met with among persons advanced in life; we seldom see both eyes affected at the same time. It by no means occurs only among persons who are victims to constant attacks of rheumatism, on the other hand, I have often met with this affection of the eyes in individuals who have hardly suffered from rheumatism in other parts of the body.

Sclero-keratitis (rheumatic) commences with pain in the affected eye and congestion of the sclerotic zone of vessels extending from the cornea outwards. This zone in the early stages of the disease is similar to that seen in instances of iritis; it has the same purplish tint. The vessels of the con-

junctiva are more or less congested, but there is no mucopurulent secretion from its surface as in catarrhal conjunctivitis, nor is there the feeling of grit or sand in the eye commonly complained of in cases of conjunctivitis. But there is deep-seated throbbing pain in the globe which extends over the temple, cheek, and along the side of the nose, and is worse at night; the skin becomes extremely tender over these parts of the face and forehead, the coats of the various branches of the temporal artery, and even of the vein, appears to be tense. The pupil is contracted, but in the early stages of the disease it responds to the stimulus of light, and dilates freely under the use of atropine. There is always some increased tension of the eyeball, the globe is also very tender if pressure is applied to it; when the eye is inverted or everted, so as to stretch the tendons of the recti muscles, the patient complains of a good deal of pain.

Should the disease continue unchecked for two or three weeks, or it may be sooner, we shall find that in places the epithelial layers of the cornea are hazy, at the same time the zone of sclerotic vessels has advanced over the margin of the cornea. This condition of keratitis is apt to be overlooked, because the opacity of the cornea is at first faint, and there is so much photophobia and intolerance of light that it is difficult to obtain a good view of the eye. On making a rapid inspection it is quite possible to mistake the dull appearance of the iris seen through the altered cornea for iritis, especially as the sclerotic zone of vessels is well marked. But on careful examination of the eye the muddy appearance of the iris will be found to depend on opacity of the cornea rather than from a turbid state of the aqueous; nevertheless, if the disease has existed for some time, inflammation of the iris supervenes, and the pupil is fixed and irregular. The existence, however, of synechia may not be discovered until the acute symptoms have subsided and the cornea has regained its transparency.

Superficial ulceration of the cornea is often met with in the progress of this affection of the eye, but I have not seen perforation, or, as a rule, the collection of pus between the layers of the cornea in instances of rheumatic sclero-keratitis.

In the early stages of this disease the patient is often

feverish, his temperature rising to perhaps 101° at bedtime, his tongue is furred, and the pain at night so severe as to prevent him from sleeping. There is loss of appetite and much depression of spirits, not only in consequence of the constitutional disturbance, but also from the tedious course which the disease usually runs.

The treatment of this affection of the eye must depend largely on the degree of tension of the globe of the eye; if it be increased, avoid the use of atropine or cocaine, for either of these drugs applied to the surface of the conjunctiva may instantly induce an attack of acute glaucoma. If there is no perceptible increase in the tension of the eyeball I should still advise caution to be exercised in the first application of a solution of atropine to the eye; if it causes no accession of pain or tension the drug may be used freely every six hours; and in such a case the constant employment of the belladonna fomentation often relieves the symptoms. At the same time the patient's bowels should be freely acted upon by a few doses of blue pill and rhubarb, and I am in the habit of prescribing the following draught to be taken every six hours: Potass. Iodid. gr. iij, Soda Salicylate gr. xv, Vin. Colch. ♏x, Aqua ℥j. Alcohol, in my experience, is best avoided unless there are special indications for its use. Under treatment of this description, especially if atropine can be employed, the patient usually makes steady progress. After all acute symptoms have subsided, should we find that synechia have formed, it may be necessary to perform an iridectomy in order to prevent recurrent iritis in the eye.

SOME OF THE DIFFICULTIES

IN THE

DIAGNOSIS OF CEREBRAL INJURIES.*

By GEORGE COWELL.

There is no class of cases of greater interest to the surgeon than that of injuries of the head. Besides the fact that the varieties and degrees of cerebral implication are serious elements of danger, there is also the truth that anything like a correct interpretation of the various signs and symptoms which these injuries produce requires a knowledge and experience which can only be obtained by the careful study of a number of cases. I have made several of these head cases the subject from time to time of a clinical lecture, and I take advantage of the very interesting case on which a post-mortem examination was made this morning, to give you an example of some of the difficulties which may present themselves for solution, and which if incorrectly interpreted may very easily lead to an error in diagnosis, and the performance of a useless operation. I will first read to you the notes of the case taken by my able dresser, Mr. Plant.

A man, of middle age, whose name and address were unknown, was brought to the surgery by the police at 8.30 p.m. on October 1st, in an unconscious condition. The police stated that the man was intoxicated, and had walked in front of a passing cab and had been knocked down. The surface of the body was cold; he was breathing slowly and heavily

* The substance of a Clinical Lecture delivered at Westminster Hospital.

and he could not be roused. He was admitted to Northumberland Ward; his urine was drawn off and an icebag was applied to his head.

He is a strongly-built man and fairly well-nourished. His age is apparently about forty-five. There is a large D tattoed in blue on the left side of the body. Both knees are somewhat deformed and are encased in knee-caps.

The patient was seen next morning by Mr. Cowell. He was lying on his back in bed, quite unconscious and breathing heavily. He could not be roused. There were slight abrasions on the right cheek, on the chin, behind the left ear, and at the back of the head. There was a slight circular depression near the posterior border of the right parietal bone, but no apparent sign of recent contusion could be found in its neighbourhood, nor was there any recent wound. There was no bleeding or discharge from the ears or nose, no ecchymosis about the conjunctiva or lids, and no bleeding or vomiting of blood from the mouth, no vomiting of any kind. The jaws were somewhat rigidly fixed. The pupils were contracted, the left being more so than the right. They did not readily respond to light. There was distinct loss of power in the left arm, and it hung loosely, whilst the right arm was somewhat rigid, and resisted movement. Little difference existed in the condition of the legs, but if anything the left appeared to be more rigid than the right. There was no patellar reflex and no ankle-clonus. Both legs were slowly moved on tickling the soles of the feet. There was complete retention of urine. The temperature was 92°, the pulse 72, regular and full, but soft, the respirations 24. The bowels had not acted since his admission,

The treatment adopted was the continuously applied icebag to the head, and a minim of croton oil upon the tongue.

The patient's symptoms gradually increased. The paralysis of the left arm became more marked on the morning of the 4th, when left facial paralysis showed itself. His unconsciousness became, too, more complete, and the stertorous breathing more marked, and he gradually sank at 3.30 p.m. on the 4th, sixty-seven hours after his admission.

Unfortunately the temperature chart of this patient has been mislaid, and we have the temperature only once recorded. It would have been interesting to have shown you the gradual rise and subsequent fall in the temperature which took place.

Now, let us look carefully at this man's symptoms and consider what they tell us of the nature of the injury that he received. He was unconscious when he was admitted, he could not be roused, his breathing was to some extent stertorous, he was at the same time somewhat collapsed as a result of his injury. His symptoms were more marked the next day, and he was clearly suffering from very severe concussion and injury to the brain, or from concussion and

compression of the brain combined. It is very important to be thoroughly familiar with the so-called diagnostic signs and symptoms of concussion and compression of the brain; although surgeons do not now draw the same hard-and-fast line between these two conditions as was formerly the case. But it is more to the purpose to remember that these two conditions may, and most frequently do, coexist, and that either may produce symptoms so similar that it may be impossible to diagnose between them, yet it is of the utmost importance to do our best to ascertain, so far as we can, what proportion of the symptoms are the result of concussion, and what are the result of compression. We cannot always do this, but with a little care we shall be able with more or less correctness to make up our minds which set of symptoms predominate.

Let us first investigate this patient's degree of insensibility. The existence of compression would explain it at once, although if compression were the sole explanation of the insensibility we should have expected to find a fuller pulse, more stertor, and perhaps a face to some extent flushed. These signs, however, though not well marked, existed, and we look for other evidence of compression. At this early stage compression can only be due to one of two things, depressed bone or hæmorrhage within the cranium. We therefore search for fracture with depression. We find scratches about the face, we find contusion and discolouration at the back of the head, and then we find near the posterior border of the right parietal bone a circular depression,—a depression, however, with no sharp edge, no swelling as of extravasated blood, no movable bone, in fact a depression with no signs whatever that it had been recently produced. This had to be carefully made out, because if this depression were of recent origin it would undoubtedly explain some of the symptoms, and it would have become the surgeon's duty to cut down upon the edge of the depression, and if the skull were found to be fractured, to trephine with a view of elevating the depressed bone. It was perfectly clear, however, that this depression was of long standing, and due to previous bone disease, as was found to be the case at the post-mortem examination. No other sign of depressed bone was present, and it was necessary to consider the question

of hæmorrhage. Compression from hæmorrhage may occur at two periods. It may occur immediately after an injury from the laceration of brain-substance and vessels, or it may come on gradually at the time of reaction from the condition of shock or collapse which is always produced by the injury. In the latter case, the course of events is easily recognisable. In the former the signs are so mixed up with those of concussion that it is not until a certain time has elapsed that the serious condition of things can be fully recognised.

As no fracture of the calvarium could be ascertained, the probability of fracture of the base had to be considered. Fracture of the base of the skull, with laceration of brain, and hæmorrhage, would explain the symptoms. But here again there was doubt. There was not the slightest external sign of fractured base. There was no discolouration of the lids or ocular conjunctiva, no bleeding from the nose, no bleeding from the mouth, no vomiting of blood, no bleeding from the ears, no escape of cerebro-spinal fluid. With the exception of the last, these signs do not demonstrate with certainty the existence of fractured base, neither does the absence of all these signs positively prove that the base is intact. Laceration of soft parts may take place without fracture, and fracture may occasionally be so placed as to avoid all these positions for showing itself. But it is, as a rule, by the presence of one or more of these signs that we read the exact nature of the injury, and in their absence we can only make a probable diagnosis of the lesion by a process of exclusion, and by giving full weight to the symptoms of cerebral injury. There is then no absolute proof of fracture of the base of the skull, unless the discolouration which existed at the back of the neck might be taken as obscure evidence of occipital fracture, and there is no sign of fracture of the calvarium with depression, and it therefore becomes necessary to weigh carefully the exact degree of the existing symptoms in the case. Let me say that I was at once ready to dismiss the idea of recent parietal injury, and admit the proof that the circular parietal depression that I have described to you was ancient, because the symptoms did not altogether correspond with those that I should have expected to find if a depressed fracture had really existed in

that position. I should not only have expected to find evidence of recent injury at the spot, but I should have expected to find also a more profound insensibility, a fuller and more bounding pulse, and a louder stertor. Instead of these we found the symptoms of compression very considerably modified, the insensibility, though very marked, was not quite complete, the pupils, though sluggish, showed a slight sensibility to light, the pulse, though full, was soft and compressible; and these facts, taken together with the other signs of great depression and collapse, the coldness and clamminess of the surface, and the marked pallor of the face, were more likely signs of some severe injury to the brain, and probably of laceration accompanied with hæmorrhage, whether fracture of the base existed or not.

It is by no means easy to diagnose laceration of brain, except of course in cases of wound and compound fracture with escape of brain-substance. When situated at the base of the brain, laceration proves rapidly fatal, either from shock or from extravasation of blood within the cranium. When slight in extent the position of the laceration may be shown by local paralyses, and the subsequent history of the case may confirm the supposition that such laceration has taken place. In the present case the gradually increasing insensibility, and the gradually extending manifestation of local lateral paralysis, are best explained by the existence of some undeveloped process in the direction of cerebral inflammation and exudation, such as one would expect to manifest itself in the neighbourhood of lacerated tissues. No active treatment was likely to be of any avail, and no treatment was adopted except that which has been mentioned, and the endeavour, under the difficulties of administering food, to maintain the patient's strength. The progress to death was really uninterrupted, for the patient never rallied from the shock of the injury. And now let us see how far this interpretation of the case was borne out by the post-mortem examination. I unfortunately did not see the post-mortem examination, and I again read from Mr. Plant's notes:

The examination was made forty-two hours after death. On removing the scalp, a circular depression about an inch and a half in diameter was found near the posterior border of the right parietal bone, but there

was no sign of fracture. On removing the calvarium the bone was found to be much thinned and quite translucent at this spot. The diploë had disappeared, and the bone had evidently been the seat of inflammation or caries some years before.

On dividing the dura mater a considerable layer of black clot was found covering the anterior part of the brain. On removing the brain the anterior portion of the right frontal lobe was found to be lacerated and very soft. A fracture of the base of the skull was also found, commencing at the left side of the internal occipital protuberance, and extending in a curved direction along the right of the foramen magnum, across the petrous portion of the temporal bone to the right side of the body of the sphenoid. In connection with this fracture it was noticed that the discolouration of the neck was much more marked than it had been during life. The other viscera in this patient were healthy.

It will be seen by this description that the diagnostic suppositions in this case were as far as possible correct. The laceration and hæmorrhage which so completely explained the symptoms were found to be present; and associated with them, and accounting for them, was the very considerable fracture of the base, following a line which exactly avoided producing any of the signs or symptoms which have been described as usually demonstrating the existence of fracture of different portions of the base. It is perhaps remarkable that no blood was vomited, seeing that the fracture extended not only across the petrous portion of the temporal bone but even to the sphenoid, and especially when we remember how frequently hæmorrhage takes place from the meatus of the ear or down the Eustachian tube, even without the presence of any fracture. It is possible that the middle ear just escaped being opened, and the end of the fracture just stopped short of the sphenoid, so that no escape of blood took place. The laceration of brain was more extensive than I had expected to find, and the extravasation was larger in amount. It was sufficient to have produced the most profound insensibility. That it did so only in an incomplete degree opens up another possibility, and one that it is necessary to bear in mind as another difficulty in the diagnosis of cerebral injuries. Was this man the subject of disease of the brain at the time of receiving the injury? There are several points in the case compatible with such a supposition, but I cannot say that there is any positive proof of it. The police considered the

man drunk when they brought him to the hospital, but whether they had really observed him before the accident, or whether they had jumped to the conclusion afterwards, there is no evidence to show. If there had been disease, the extent of the laceration would be more easily explained, although the blow that would produce so extensive a fracture might be considered also as sufficient to produce the very extensive laceration of brain-substance. I did not have the opportunity of seeing the brain, but the rapidity with which brain softens under inflammatory change would fully account for the soft condition of the brain in the neighbourhood of the laceration, although that condition might also have been explained by an antecedent diseased condition. Then there were the evidence of the earlier disease of the parietal bone, the appearance and condition of the man, both unknown and uncared for, and the probably rough life of a soldier of a character apparently not immaculate. These are all points worthy of consideration, and permit, if they do not possibly point to, the hypothesis of a pre-existing cerebral disease.

There is another practical question which ought always to be considered, if possible, in injuries of the head, and might very well have found a place at the beginning of this lecture had I not been considering the significance of symptoms described in the notes that I read to you. The question is this: How was the injury, the laceration and fracture, produced? Our difficulties are generally much increased if we cannot discover this. We were told that the patient whose case we had under discussion was knocked down by a passing cab. Were these serious injuries produced by the impact of the skull upon the hard ground or on the edge of the pavement, or was the head struck by the wheel of the cab or by the horse's hoof? No answer was forthcoming to these questions, or it would have been of great assistance in forming a diagnosis of the case. We cannot tell how the blow was produced. We can only form a conjecture from the post-mortem examination, and reason from the analogy of other cases what must have been the direction that it followed.

Fractures of the base alone are rare and occur only in

direct wounds, in crushes, or in falls from a height, the ground being struck by the top of the head or by the pelvis or ends of the thighs in such a position that the spinal column is forced against the base of the skull. And even then the line of fracture extends into one of the fossæ, showing to some extent a deviation of the direction of the force from the straight line. Statistics show, however, that fracture of the base is far more commonly produced by violent blows over one of the lateral regions of the skull, the line of fracture occupying the fossa struck, and extending secondarily through the portion of the base most nearly connected with it. It may be laid down then as an almost invariable rule that in fractures of the base a considerable portion of the line of fracture will occupy one or other of the fossæ of the skull, and that the fossa thus implicated was the immediate seat of the injury.

If we apply these rules to the present case, we shall have little doubt that the force of the blow, however produced, was received upon the occipital region, to the left probably of the occipital protuberance, that the force of the blow was transmitted to the right of the foramen magnum, and in fact along the line of fracture, and that the laceration of brain was the result of what is termed *contre-coup*. I believe that laceration of brain is often produced in this way, although fracture of the skull from *contre-coup* is extremely rare.

ON THE TREATMENT

OF THE

HÆMORRHAGE OF UTERINE FIBROIDS

BY THE INTERNAL APPLICATION OF MATICO.

By Dr. GRIGG.

The question of the treatment of fibroids and the hæmorrhage to which they give rise has attracted a good deal of attention during the last few years, and various remedial measures have been suggested for their cure. We have first, enucleation in its various forms as proposed by Dr. Matthews Duncan, Dr. Greenhalgh and Dr. Barnes, then the radical cure by the removal of the uterus and the appendages, next the removal of the appendages, and lastly the method of treatment introduced by Dr. Apostoli, of Paris, which has been largely tried with results which seem to have varied according as the observer was or was not prejudiced in favour of, or against, this plan of treatment. The propriety of removing the ovaries to relieve the constant drain upon the system involved by the hæmorrhage has been very much debated of late, but it cannot be doubted that their removal is attended in a large number of instances by the most beneficial results. Even the removal of the entire uterus is, in my opinion, in certain cases not only

justifiable but affords the patient her only chance of escaping with her life as well as relieving her of the incumbrance which had incapacitated her from fulfilling her ordinary duties.

When the tumours are of moderate size, those who are acquainted with the small amount of risk attending the operation for the removal of the appendages, in the hands of a skilful operator, cannot hesitate to prefer that operation to the more serious danger involved in the removal of the uterus. The results which have come under my personal observation, although the operation has not been performed by myself, have been so markedly beneficial and so successful, that one could hardly fail to recognise its merits.

Among many others, I may recall a case which happened in my practice about three years ago. The lady had been under my care and that of other medical men for something like ten years, suffering from serious hæmorrhage due to fibroids. She had gone through the usual routine treatment both here and abroad, without any useful or tangible result. She latterly became so much worse that she was generally confined to her bed for from ten days to a fortnight during each menstrual period. After a more than usually profuse attack of hæmorrhage, and in view of the fact that there seemed to be no chance of any improvement, I came to the conclusion that it was desirable to remove either the fibroid or the ovaries. The tumour was about the size of an infant's head. The latter operation was successfully carried out, and since then she has had no return of the catamenia. I have examined her quite recently and found that the tumour had diminished to the size of an orange. The lady's age is now thirty-nine, so that the menopause had been advanced by several years, and absorption of the tumour had been accelerated.

As regards the extirpation of the uterus, I have had several cases in which this operation was judged necessary, and in every instance the operation has been attended with success. Several of the patients are now following their usual occupations without distress or inconvenience. Although I have mentioned these cases I do not wish to argue upon the merits of either form of interference, but merely to prove

that such operations, as judged by results, are occasionally justifiable.

What I particularly wish to call attention to at present is not the various radical methods of cure but the arrest of the hæmorrhage which plays such an important part in these cases. The hæmorrhage which occurs in cases of uterine fibroid is mainly due to the congested condition of the mucous membrane of the uterus, which from its increased vascularity and hyperplasia has become hæmorrhagic, and in some cases ulcerated. The treatment by intra-uterine medication has often been dealt with, but in every instance, so far as I have been able to ascertain, the treatment recommended has been of an escharotic character,—perchloride of iron, nitric acid, &c. The effect of these strong applications is, in my opinion, to destroy the mucous membrane and give rise to ulceration. Consequently, as soon as the first effects have passed off the mucous membrane is left in a worse condition than before. As often as not, the effect of this treatment is ultimately to increase the hæmorrhage instead of decreasing it. It seems to me therefore that all applications to the interior of the uterus ought to be of such a character as not to destroy or injure the mucous membrane. The only styptic that I know of which answers to this description is matico. The merits of this styptic were highly appreciated by the late Sir William Lawrence and by his contemporaries. The late Professor Miller, of Edinburgh, was also an enthusiastic admirer of the virtues of matico. Sir William Lawrence was of opinion that it was only to be relied upon in the powder form freshly made, and that the powder required to be brought into contact with the bleeding surface in order to have any effect in arresting hæmorrhage. It would, however, be a difficult task to introduce sufficient powder into the cavity of the uterus to produce any effect, especially when hæmorrhage was present. I determined therefore to try a strong fresh infusion of the leaves. Soon after this idea occurred to me I met with a case eminently suited to put it to the test. The patient was forty-three years of age and the wife of a medical man. She had been suffering from the effects of fibroids for many years. There were four

or five fibroid growths springing from the uterus, of various sizes, the largest of which was the size of a fœtal head. She had been suffering for several years from excessive menstruation, and this had been gradually growing worse. When I was summoned to see her she had not been free from hæmorrhage for upwards of seven weeks. All the usual remedies had been tried in vain, and she was reduced to such a blanched and exhausted condition that I did not think that she would be able to withstand the shock of an operation. I called in the assistance of Dr. Matthews Duncan, and he agreed that it would be imprudent to run the risk of an operation in her present exhausted condition. She had at this time been bleeding for ten or eleven weeks. As a last resort I thought I would try the effect of matico. I obtained a reliable specimen of the drug from Messrs. Squire, of which I prepared an infusion, putting about a handful of the leaves to twenty ounces of water.

I then introduced an ordinary male catheter into the uterus and pushed it gently right up to the fundus. I then slowly injected about a pint of the infusion at a temperature of 120°. An hour or so afterwards she was seized with severe vomiting and slight purging, which lasted on and off for seven or eight hours. There was no rise of temperature nor any abdominal tenderness. Neither symptom, however, was of a very serious character, notwithstanding the duration. The hæmorrhage in the meantime had entirely ceased. I may remark, *en passant,* that the patient's skin assumed a greenish hue which persisted for some time. The hair too, which had been previously very grey, changed to a dark colour. This condition was only transient, lasting a month or six weeks. At the time of the operation I regarded the patient's condition as most critical, and I had given up all hopes of saving her life, so exhausted was she from continued loss of blood. It completely arrested the hæmorrhage, and the next period ran a normal course. About two months afterwards, consequent on some violent exertion, she again flooded. I waited a day or two, and finding that the bleeding showed no signs of abatement I proceeded to repeat the injection, using it at the same temperature and of the same strength. The result was as satisfactory as it

had been the first time. Her periods continued normal for some time, but the exertion and excitement consequent on the marriage of her daughter, brought it on once more. I again irrigated the uterns, this time using a stronger infusion of matico, with the result of definitely checking the hæmorrhage, which has never since returned. Each injection was followed by the same phenomena as on the first occasion, except that on the second injection there was a slight rise of temperature, and that on the last occasion the skin became somewhat darker in hue. Since then the lady has enjoyed complete immunity from any hæmorrhage and has been able to pursue an active life without any inconvenience whatever. This was my first experience with matico, and I look upon it as a particularly successful case because the patient had been practically given up as past hope.

I had not to wait very long before another case occurred in the person of a patient who for many years had been under my care for uterine fibroids. Her periods were accompanied by most severe hæmorrhage, necessitating her keeping the recumbent position at each period. The period to which I was summoned commenced on February 3rd, 1886, and was ceasing on the 8th, when it suddenly became excessive, and continued so until the 15th, on which day I was sent for into the country to see her. She was perfectly blanched and lying in a state of collapse, the pulse hardly perceptible. On my making an examination, the hæmorrhage, which had temporarily lessened, broke out afresh with renewed violence. I immediately proceeded to make a strong solution of matico, and to inject it into the uterus at a high temperature, because, so urgent was her condition, that I was afraid to wait for it to cool down. The effect was to arrest the bleeding until the 17th, when I was again sent for at 8 o'clock in the morning. I injected the uterus with a pint of the solution at a temperature of about 120°, but there was a slight return of the hæmorrhage on the 18th and again on the 27th. The normal period returned on the 29th of March, six weeks from my first visit. It lasted until the 9th of April, when I was once more sent for. I injected the uterus, but without much success, the failure being due,

in my opinion, to the inferior quality of the matico, which, the medical man informed me, he had had in his surgery "at least twenty years," and the imperfection of the instrument. I was sent for again the next day, and this time I took care to have with me my own supply of matico, as well as a more suitable instrument for injecting the uterus. With these precautions the application was attended with complete success, the bleeding being definitely arrested. From that time to the present she has had no return of the hæmorrhage. The patient was then fifty-two years of age.

My experience has taught me that the infusion must be perfectly fresh, and the instrument should be carried right up to the fundus of the uterus. When I have failed for a time I have been able in most instances to trace the want of success to my inability to get the instrument as far as the fundus. It is important to bear these observations in mind in using matico, special care being given to the freshness of the drug. I have since been able to obtain much more uniformly satisfactory results owing to my bearing these precautions in mind. As yet I have never failed to permanently arrest the excessive hæmorrhage, although I have had to repeat the operation some few times before success was obtained.

I have not yet had an opportunity of trying its effect upon hæmorrhage from fibroids in a young woman, but I feel convinced that this treatment, if carried over three or four periods, would be attended with success. Matico, I am inclined to believe, arrests hæmorrhage by blocking up the small vessels without destroying or injuring the mucous membrane, consequently the return of the latter to a healthy condition is facilitated. I think this plan of treatment might in many cases be tried before resorting to more formidable operations. It is at any rate perfectly safe, and it rarely gives rise to any unpleasant symptoms. It can, moreover, be employed in cases where the patient is not in a condition to support more radical measures.

In conclusion, I may remark that vomiting only occurred in the first case and was not produced in any of the others. And the same remark applies to the purging and to the discolouration of the skin and hair which followed the first

injection. I cannot account for it in that case, except that some of the infusion may have been retained in the uterus, and become absorbed, or it may have passed down the Fallopian tubes, though this I hardly think possible, as there was no abdominal tenderness and only on one occasion any rise of temperature.

AN EXERCISE IN FORENSIC MEDICINE.

By CHARLES A. HEBBERT.

Under the above title I propose to record two cases of mutilation of the human body which occurred during the past year. In each case the body was cut up after death into numerous pieces, and they illustrate fairly well the difficulties of identification, especially with regard to the determination of age, height, and the condition of life.

I have first described the facts as they were observed, and then given the inferences deduced therefrom. When a medical man is called upon by the coroner or the police to examine such cases, he often is at a loss to know how much or how little to report, so in the following pages I have indicated the usual procedure, hoping that they may interest some students of forensic medicine, and perhaps aid them in framing a report if ever they are requested to make one.

The golden rule, as quoted by Taylor, is "that a medical man, when he sees a dead body, should notice everything."

In July, 1887, Mr. Bond was requested by the Treasury to examine some remains found in various parts of London, and I had the opportunity of helping at the post-mortem. All the portions were found either in the Thames or in the Regent's Canal, and consisted of eight separate parts. In

the inquiry we had to determine the following points: whether they were human and belonged to the same body, the race, age, sex, height, complexion, and condition of life, and, if possible, the cause of death, and the skill or ignorance of the operator.

The parts were: (*a*) the lower part of the thorax and upper part of the abdomen, from the fifth dorsal vertebra to the third lumbar vertebra, (*b*) the pelvis below the third lumbar vertebra, (*c*) the right thigh, including patella, (*d*) the left thigh, (*e*) both legs and feet, the left having patella attached, (*f*) the arms from the shoulder to the fingers. They were obviously human, and on applying the various joint and bone surfaces together we found that they fitted. The skin cuts apparently corresponded, but had been too much altered by decomposition to warrant a certain opinion. The limbs were muscular, and the remains generally had a fair amount of subcutaneous fat.

The various parts were then described in the report. First, the thorax had been cut above, through the body of the fifth dorsal vertebra, and below, through the body of the third lumbar vertebra, the bones having flat but somewhat rough surfaces, and through the skin and other tissues by a series of more or less clean-cut incisions, so that the fourth left rib and the fifth right rib had been left, and the sternum below the articulations of these ribs. The diaphragm was intact, but the lungs, heart, and other thoracic viscera were absent. Below the diaphragm were the liver, stomach, both kidneys, and spleen; the remaining viscera of the abdomen were included with the pelvis below the third lumbar vertebra.

The lower piece of the trunk was the abdomen from the third lumbar vertebra and the pelvis. No part of the small intestine from the duodenum was found, nor the large intestine except the sigmoid flexure and rectum in the lower fragment. In the pelvis were the uterus, vagina, ovaries and appendages, and the bladder. The acetabula were empty, the thighs being separated from the pelvis by incisions passing round the flexure of the joint. The external organs of generation were those of a female.

The uterus measured 3⅛ inches, the body 1½ inches, and

the cervix 1⅝ inches. The os internum was well marked, and the arbor vitæ very distinct. The os externum was small, and would barely admit the point of a sound. The ovaries were small, and one showed a corpus luteum of menstruation. The rugæ of the vagina were prominent. On the pubes were some black hairs. An incision had evidently been made from the ensiform cartilage to the pubes. There was no trace of ecchymosis in the skin of the incisions separating the limbs or in those dividing the trunk.

The skin of the two pieces of the trunk was partly decomposed and sodden, but was evidently fair in colour.

The arms had been taken off at the shoulder by incisions passing obliquely downwards and outwards from the tip of the shoulder round the axilla, so as to leave most skin on the upper and outer aspect of the arm. The heads of the humeri had been cleanly disarticulated. The skin of the arms was peeling off, and that of the palms thick, white, and sodden; the two terminal phalanges of the fingers, with the exception of the thumb and the left ring finger, had rotted off. The length of the left arm and hand was 25⅝ inches. There was no circular depressed mark on the left ring finger.

The thighs had been cut off at the hip-joint by cuts round the flexure of the joint, and the heads of the femora disarticulated. The right thigh had the patella attached, but was separated from the leg at the knee-joint. The left thigh, which was found at a later date, showed not only more signs of decomposition, but the head of the femur was riddled with the small circular holes of a water-worm. The femur measured 16⅛ inches from the head to the lower level of internal condyle.

The legs, including the feet, had been cut off by circular cuts from the centre of the knee-joints, the left leg having the patella attached. The legs were well shaped and muscular, and the foot small and without deformity. There were circular slightly depressed marks, about half an inch deep, just below the knees. Each leg with the foot measured 16 inches; right and left tibiæ 13 inches; right and left fibulæ 13 inches. The skin of the thighs and legs was decomposing, the cuticle in places being raised in bullæ and

peeling off. The cuticle of the feet had disappeared with the nails, and the terminal phalanges had fallen off.

The following inferences were then drawn from the foregoing facts :

1. The *sex* was easily told as the external organs of generation, as well as the uterus and ovaries, were present.

2. *The age.*—The union of the epiphyses proved that the age was over twenty-five years.

3. The *complexion* was dark, as shown by the pubic hair, while the fair skin proved Caucasian origin.

4. *Height.*—With regard to the height there are several modes of determining this point. The commonest, when only the arms or upper parts are found, is the "figure carré des ancients," that is, when the body is lying flat with legs extended and the arms stretched at right angles to the trunk, a square can be described round the body. Now this, although fairly correct in the living subject, is faulty in three ways when applied to a single limb. We are told to double the length of the arm, and add 12 inches, 5 for each clavicle and 2 for the sternum. Now, the first error is that when the arm is at right angles to the trunk the head of the humerus is from a half to three quarters of an inch to the inner side of the acromial end of the clavicle. Secondly, the sternal ends of the clavicles, projecting more forwards than the outer ends, an obtuse-angled triangle is formed with the apex forwards, and we ought to take the measure along a transverse vertical plane of the trunk, that is, the *base* of the triangle instead of the side; this difference is from a half to one inch as verified by several measurements of skeletons. Thirdly, in females the outer end of the clavicle is directed a little, though very slightly, downwards, as shown by their more sloping shoulders, so that to calculate from the exact length of the clavicle would again give two sides of a triangle instead of the base. This mode of estimating height is further more misleading in females on account of their relatively shorter legs, so that it cannot be relied on ; in this case it would have given 5 ft. $2\frac{3}{4}$ in. The next method of measuring height is that the top of the pubes is the centre of the body. In this case the length was $32\frac{1}{8} \times 2 =$

$64\frac{1}{4}$, *i. e.* 5 ft. $4\frac{1}{4}$ in. Other methods are derived from the ancient Egyptian canon, viz. that the length of the middle finger as measured down from the root of the thumb-nail at right angles to the axis of the middle finger when the hand is laid flat on a table $= \frac{1}{19}$ of the height, and that the forearm, from the tip of the olecranon to the end of the mid-finger, $= \frac{5}{19}$ of the height. In this case the measurement of the finger approximately was $3\frac{1}{4} \times 19$, *i. e.* $61\frac{3}{4}$, so that averaging the three measurements we reckoned her height to be about 5 ft. 3 in.

5. *Condition of life.*—The skin of the hands and feet was too much decomposed to show whether she had led a life of hard manual work. There was no mark made by a wedding ring. The uterus was that of a virgin, but the vulva was too decomposed to give indication with regard to old or recent injury. The mark round the leg showed that garters were worn below the knee, a custom, I believe, more common among the lower than the upper classes, who either wear garters above the knee or suspenders. She had recently menstruated.

The cuts on the surfaces of the vertebræ were such as would be made by a saw, and the long clean sweeping incisions through the skin showed that a very sharp knife had been used. The disarticulations were neatly and cleanly done, in each case the joint being exactly opened. The absence of ecchymosis showed that all the cuts were made after death.

It was obvious, from the direction and manner of the cuts, that no ordinary surgical or dissecting-room operation had been carried out. Although no special knowledge of anatomy was shown, the cuts indicated a practical skill in amputating limbs at joints, and making clean sweeping skin cuts. It may be argued that such skill would be gained by a hunter or a butcher, as either of these are in the habit of rapidly and skilfully separating limbs, and of cutting up a trunk into several parts. I do not think that any surgeon or anatomist could have done the work so well, as they are not *constantly* operating, while a butcher is almost daily cutting up carcases. Moreover, the limbs were separated in almost precisely the way a butcher or hunter would adopt,

i. e. making a series of cuts round the flexure of the joint, and then by a strong twist wrenching out the head from the joint and cutting the capsule.

The condition of the skin showed that each part had been lying and decomposing in water, and that several months had elapsed since the date of death.

The summary was that the remains were those of an adult female of Caucasian origin and dark complexion, from twenty-five to thirty-five years old, and about 5 ft. 3 in. high, that she had not borne a child, and in fact, from the small size of the os uteri was unlikely to conceive; that the body had been mutilated *after* death by some person who, though not necessarily a skilled anatomist, yet had some knowledge of joints, and the readiest mode of separating limbs, and by inference a butcher or hunter; that decomposition had taken place in water, and some months elapsed since death.

This year I had the opportunity of examining an arm found in the Thames, and a few weeks after that a portion of a trunk. The arm was seen on the 16th September, and I made the following report to the Coroner:

"16th September, 1888.

"(*a*) *Line of incision.*—On this date I examined a right human arm, separated from the trunk at the shoulder by an incision passing obliquely round the upper third of the humerus, so that the lowest point is internal and 5 inches vertically from the head of the humerus and the highest point external, and 2¾ inches vertically from the head of the humerus.

"(*b*) *Character of incision.*—The head and neck of the humerus are exposed, the capsule of the joint having been cut circularly and the head enucleated. The cartilage shows two or three small nicks. The amputation has been made by seven separate cuts, cleanly dividing the tissues.

"(*c*) *Description.*—The arm is large, shapely, and muscular, but has rather the roundness and general contour of a female than the muscularity, as shown by the development of the triceps and biceps, of a male limb. The wrist is small, the hands long, with tapering fingers; the nails are

small, flat, and well formed, and have been carefully trimmed. The fingers of the hand are firmly flexed and stiff, and the thumb opposed and flexed. In dissecting the limb it is found that the flexion of the fingers is due to the rigor mortis of the flexores digitorum.

"(*d*) *Skin.*—The skin of the arm is adherent and white, though there are several patches of a brown colour and of a hard leathery consistence from decomposition. There is some fine downy hair on the back of the forearm, not thick and strong as in a man. There are no bruises nor cuts nor old scars. The skin of the hand is thick, white, and much corrugated, in some places the epidermis being raised from the cutis vera. The nails are firmly adherent. There is no circular depressed mark on the fingers.

"(*e*) *Hair.*—There are a few hairs in the axilla of a dark brown colour.

"(*f*) *Weight.*—7 lbs. 6 oz.

"(*g*) *Measurements.*—Length of the whole arm from head of humerus to tip of middle finger, 31¼ inches; the measurements along both flexor and extensor aspects corresponding. Length of forearm from tip of olecranon to tip of middle finger, 18 inches. Humerus, from external condyle to great tuberosity, 12¼ inches. Humerus, from head to internal condyle, 12⅞ inches. Ulna, from tip of olecranon to styloid process, 10¾ inches. Hand, from head of third metacarpal bone to tip of finger, 7½ inches. Third finger, from tip to point on first phalanx, which meets a line drawn transversely from root of the thumb-nail, 3⅝ inches. Circumference of arm just below the lower end of incision, 13 inches. Circumference, five inches above internal condyle, 12¼ inches. Circumference of forearm, one inch below tip of olecranon, 10⅝ inches. Wrist, 6⅜ inches. Hand, 8⅛ inches.

"(*h*) *Ligature.*—Surrounding the arm six inches above the internal condyle is a piece of string, tightly tied; this string is partly wrapped in paper (newspaper). The mark made by the string is circular, and shows the strands of the ligature. The skin below the string is parchment-like in character, but there is no ecchymosis.

The tissues divided by the amputation show no clotting nor ecchymosis. The veins of the limb are full of black

fluid blood, which has apparently been kept in by the ligature."

"(*i*) *Disease.*—There is no disease of the joint or limb.

"(*j*) *Age.*—The epiphyses of the humerus are firmly united to the shaft, and also that of the fourth metacarpal bone. These unions occur from the eighteenth to the twentieth year.

"*Height.*—The height is suggested by three methods.

a. Twice the length of the arm + 10 inches for the clavicles (or less in the female) and one inch for the episternal notch. This would give $31 \times 2 = 62 + 10 = 72$, which is probably several inches too much.

"*b.* The length of third finger from the tip to a point meeting a line, drawn transversely from the root of the thumb-nail is $\frac{1}{19}$ part of the height, $3\frac{5}{8} \times 19 = 68\frac{5}{8} = 5$ft. $8\frac{5}{8}$ in.

"*c.* The length of forearm, from the tip of olecranon to tip of third finger $= \frac{5}{19}$ of the height, this is $18 \times \frac{19}{5} = 68\frac{2}{5} = 5$ ft. $8\frac{2}{5}$ in.

"*Inferences.—Date of death.*—The appearance of the hands would suggest maceration in water from three to four weeks, and the absence of ecchymosis proves that the limb was separated after death.

"*History.*—The limb is clearly not separated by the ordinary surgical operation at the shoulder-joint for the following reasons:

"1st. The incision of an ordinary operation by transfixion has the lowest part outside and the highest inside for the formation of the flap, and if by the double flap methods, the longest piece of skin is taken from the outside of the arm.

"2nd. The entire absence of disease, either of joint or limb, such as would warrant an operation.

"3rd. The separation took place *after death.*

"It certainly shows no trace of having been prepared for the dissecting room, as there is no injection in the vessels, nor sign of preservation by antiseptics.

The general shape and appearance of the hand and arm suggested at once a female limb, the taper fingers, the small wrist and the absence of any special peculiarity all favouring this view; the neat appearance of the nails, and the absence of any deformity by occupation, were against a low-class person.

The manner in which the limb had been separated was

exactly the same as iu the first case, and similar arguments as to the occupation of the operator will apply in this case.

"*Summary.*—The limb is apparently that of a female adult above twenty years of age, of Caucasian race, of dark complexion, and about 5 ft. 9 in. in height.

It has not been separated by the ordinary surgical operation during life, but has been cut off after death by a person with some knowledge of anatomy.

"The ligature was either tied round to prevent the bleeding from the veins, or to fix a newspaper wrapper round the limb. In either case it had the result of preventing the draining out of blood."

"Decomposition had begun after maceration in water."

A few days after this a portion of a trunk was found in Whitehall, and was examined by Mr. Bond and myself. It consisted of the whole thorax and the upper part of the abdomen as far as the fourth lumbar vertebra.

Description.—The trunk is that of a female, the breasts being present. It comprises the thorax and upper part of the abdomen, the head having been separated at the sixth cervical vertebra, and the pelvis and lower part of the abdomen at the fourth lumbar vertebra. The bones have been cut through the middle of the bodies, showing flat, somewhat rough surfaces. The skin incisions have clean, well-defined edges. There is a fair amount of subcutaneous fat, and the muscles are large and well developed.

Measurements.—Length 17 inches. Circumference of thorax at level of nipple line, 35½ inches. Circumference of waist 28½ inches.

Surface.—The skin is fair and not much decomposed. The breasts are large and prominent, with small, well-shaped nipples. There are no scars nor wounds, but there are impressions made by the string with which the trunk was tied. These are four in number, two running down obliquely from the shoulder and two crossing the chest, one at the level of the nipples and one across the upper part of the sternum. The divided surfaces are much decomposed, and the parts full of maggots. There are no appearances of lineæ albæ on the surface of the abdomen.

Cut surfaces.—Arms.—The arms have been amputated at the shoulder-joints by several incisions passing obliquely downwards and outwards from the tip of the shoulder round the axilla. The glenoid fossæ are bare, and the limbs cleanly disarticulated.

Neck.—The skin of the neck has been divided opposite the cricoid cartilage by two clean lateral cuts, joined in front and behind by several small jagged incisions; the posterior plate of the cricoid and the body of the sixth cervical vertebra have been sawn through. The tissues of the neck on either side are in an advanced state of decomposition.

Organs.—Breast.—The mammary glands are large and healthy. On opening the thorax it is noticed that the rib cartilages are unossified.

Heart.—The substance of the heart is healthy, the valves normal, and there is no staining of the endocardium of either ventricle.

Lungs.—The left lung is free from adhesions, and the substance healthy. The right lung is firmly adherent to the chest wall and diaphragm by old adhesions; the substance appears healthy.

The liver, spleen, and kidneys are normal.

Stomach contains about 1 oz. of partially digested food.

Intestines.—The small intestine, with the mesentery, are *in situ* and appear healthy. There are a few remains of the transverse ascending and descending parts of the colon, but the lower parts are absent, as well as the pelvic viscera.

Hair.—There are a few dark brown hairs in the axilla.

The clavicle measures 6 inches, and the sternum 6 inches. The sternal epiphysis of the clavicle is united to the shaft.

Comparison with arm.—The arm discovered in Pimlico and examined on the 16th September was brought to the mortuary, and was found to exactly correspond to the trunk. The skin incisions fit, and the bones, *i. e.* the humerus and scapula, evidently belong to the same joint. The hair taken off the arm and the hair from the axilla of the trunk are identical.

Summary.—The trunk is that of a large well-nourished woman, of an age of full sexual activity, as shown by the breasts. It could not be decided whether she had been a

mother, but the appearance of the breasts would indicate that she had not suckled children. The trunk had been mutilated after death, and the death had probably occurred about two months previously. Decomposition had taken place in the air as shown by the presence of the maggots.

A fortnight after this a left leg and foot were found. The skin was encrusted with earth, and partly covered with mould. The cuticle of the sole of the foot and toes with the nails had nearly separated. The nails were well shaped and properly trimmed. The skin of the leg was fair, and not much altered by decomposition.

This limb had been separated from the thigh at the knee-joint, the patella being absent. The incision had clean and well-defined edges, and the joint exactly opened.

The length of the leg was 17⅛ inches; circumference of calf 14 inches; ankle 8⅛ inches; length of foot 9½ inches. On the outside of the leg was a dark purple mark the size of a shilling, and the tissues beneath contained clotted blood. A small but similar mark was on the inside of the leg.

The length and size of the leg and foot pointed to its being part of the same body. The marks were ante-mortem bruises. The date of death was from six weeks to two months previously.

These remains showed the various kinds of putrefaction; the arm had been in water, the trunk exposed to the air, and the leg buried.

As will be gathered from the description, the arm in the second case had been cut from the trunk in a precisely similar manner to that in the first case, in fact, as soon as I saw the arm I was struck by the close resemblance of the modes of separation, and the mutilation of the trunk was in every respect identical.

The difficulties of investigating these cases are considerable, especially when one has to deal with only a limb and a portion of a trunk. The determination of height is a very puzzling problem, and one of my objects in debating these cases is to point out the inaccuracy of one of the most generally received modes, viz. the "figure carré." Our difficulties were increased by the fact that in the first case the exact length of the whole arm could not be measured as the

terminal phalanx of the middle finger had rotted off, so that we had to take the length to the tip of the ring finger. The difference between the length of the two fingers is nearly a quarter of an inch, and the tabulation of the height should have been $25\frac{3}{8} + \frac{1}{4} = (26\frac{1}{8} \times 2) + 12 = 64\frac{1}{4}$, a measurement which I believe to be at least an inch and a half too great. The fault of the method, however, is not so marked as in the second case, where the calculation would have made the woman six feet. I have made a number of observations on the measurements of the third finger and the length of the forearm, and I am inclined to think that the latter is the only measurement which gives anything like an accurate result. The length of the forearm has been for centuries a standard of measurement under the name of cubit. According to the old Egyptian canon, the human body can be divided by transverse lines into nineteen parts, of which five represent the length of the forearm and one the length of the third finger. In the second case the calculations from these two methods agreed to one fortieth of an inch.

To guess the age of human remains is another puzzle. When once the epiphyses have united, one can only say that the age is over twenty-five. In the first case we had the ovaries to help us, and they showed that the woman was in the period of full sexual vigour, in fact, she had only lately menstruated. In the second case the breasts seemed to indicate a similar period of life; they were full, prominent, with firm, well-developed glandular tissue. In neither case could we say more than that the age was over twenty-five and under forty years.

The condition of life and occupation of the deceased women could not possibly be determined. The hand and foot of the second case pointed to the fact that she had not done hard manual labour, and was careful about her appearance, but beyond this we could give no epinion.

In conclusion, I have to thank Mr. Bond for the opportunity of aiding at the post-mortem examinations, and for permission to make use of the notes and to publish the cases.

ON PERIOSTEAL FIBROMA OF THE BASE OF THE SKULL,

OR

NASO-PHARYNGEAL POLYPUS.

By C. STONHAM.

The so-called naso-pharyngeal polypi from the early age at which they appear, the rapidity of their growth, and their inevitably fatal termination unless speedily eradicated by the surgeon, possess more than common interest, not only for the operating surgeon but also for the general practitioner, since any success in treating this formidable though fortunately rare affection depends in great measure upon its early recognition.

This subject has specially attracted the attention of French surgeons, and it is mainly to the labours of Nélaton, Verneuil, D'Ornellas, Beuf, Brevet, and many others that we owe any real knowledge of it.

Sanctioned by long usage, the term polypus is, literally interpreted, a misnomer, since it has never been shown that these tumours have more than one true pedicle. Verneuil long ago suggested that they should be called periosteal fibromata, and this name is by far the most appropriate, since it conveys a definite idea as to the nature and origin of these growths, which may indeed be aptly compared to the simple fibrous epulis of the jaw.

Before entering upon an account of these tumours, it will be necessary to refer to a few anatomical points bearing upon the subject, for their gravity depends not a little upon their anatomical situation.

Anatomy.

The pharyngeal aponeurosis is attached above to the pharyngeal spine, being continuous with the periosteum covering the basilar process; it is also attached to the Eustachian tube and petrous bone, and anteriorly to the lower jaw behind the alveolar border. At other parts it is free and movable, posteriorly being but loosely connected to the spinal column by a little areolar tissue, so that a tumour growing down behind it would meet with but little resistance.

The plane of the hard palate will, if prolonged backwards, impinge against the occipito-atloid articulation, and not, as is too generally supposed, against the bodies of the vertebræ. It follows from this that in making a digital examination with the neck extended and the head thrown back, the finger will come in contact with the basilar process. Ignorance of this fact no doubt led to the conflicting statements as to the real origin of the growths under consideration, many recorded cases being said to have sprung from the vertebral bodies, a statement not borne out by post-mortem examination.

The occipital and sphenoid bones are not united by bone until twenty years of age.

The sinuses and air-cells, with the exception of the antrum, which appears in the fourth month of fœtal life, do not make their appearance until about the third year of life, and do not attain any size until the age of puberty.

I have examined numerous skulls and bones in order to arrive at some approximate idea as to the thickness of the walls of the sinuses, and other parts bearing upon the growth and spread of these tumours.

First, with regard to the basilar process, the thinnest one that I have met with only measured $\frac{3}{16}$ inch in the thickest part, but the average measurement varies in different parts from $\frac{3}{8}$ to $\frac{1}{2}$ inch.

The walls of the sphenoidal sinuses are extremely thin and

incapable of offering much resistance to the growth of any tumour; thus I find that that part separating the sinus from the brain is about $\frac{1}{10}$ cm. in thickness, and that separating it from the pharynx not more than $\frac{1}{5}$ or $\frac{1}{10}$ cm. In some instances these shells of bone are not thicker than a sheet of note paper, but such instances are usually seen in the skulls of old people, where the wall has become atrophied.

The mucous membrane of the pharynx is intimately adherent to the basilar process at its posterior part, just where the reflection to form the posterior wall takes place, and here also is a large quantity of fibrous tissue interposed between it and the bone. It is here that these tumours most commonly arises.

I have mentioned the above points because they seem to me to be of special importance with regard to naso-pharyngeal polypi, but at the same time the anatomy of the nasal cavities, ethmoidal sinuses, antrum, and other parts are almost equally important, but the space at my disposal will not allow more than to mention them.

Etiology.

The causation of periosteal fibromata, and in fact that of all tumours, is shrouded in mystery, and I think one might almost with safety say of them that on this point we have no evidence of any value upon which to build theories.

They have been attributed to injuries and to the presence of foreign bodies, statements which are sufficiently disproved by the situation of the pedicles. In other cases they have been attributed to repeated "colds in the head," but we must be very careful and not confound cause with effect, and we know that one of the earliest symptoms of these growths is repeated attacks of catarrhal inflammation.

John Hunter supposed that they were the result of the organisation of a blood-clot, extravasated as the result of an injury or spontaneous rupture of a vessel.

Scurvy, variola, syphilis, and struma have all in their turn and with almost equal justice taken their places in the list of causes.

There are, however, one or two well-ascertained facts with regard to the origin of these tumours. That they are growths

of early life, usually appearing between fifteen and twenty, and almost invariably attacking the male sex is certain. Michaux, a Belgian surgeon, has recorded a case occurring in a man of forty-five, but as it recurred and proved fatal in three months, the recurrence occurring in the glands of the neck, I think we must come to the conclusion that the case was in reality cancer.

Morbid Anatomy.

Springing by a solitary, usually broad pedicle, from the periosteum covering the basilar process, the tumour grows downwards into the pharynx, pushing in front of it the mucous membrane which forms a covering for it, so that at first sight it would appear to be nothing more than a mere overgrowth of this tissue.

But examined more closely, especially after a section has been made, it will be found that the growth is hard but elastic, having a greyish colour and showing a tendency to pucker on the cut surface. The external surface is smooth and glistening, except where it has been the seat of superficial ulceration or necrosis, where it is not uncommon to find adherent sloughs.

Examined microscopically the growth is found to consist of parallel bundles of white fibrous tissue and a few elastic fibres; the long axis of the bundles is parallel with that of the growth, and consequently at right angles to the plane of the surface from which the tumour grows. Scattered among the fibres are numerous small round-cells, sometimes in such quantity as to give the growth the pathological and clinical characters of a fibro-sarcoma.

In some cases it is probable that the polypus originates in the deeper fibrous layers of the mucous membrane, being thus closely allied to uterine fibroids.

The main bulk of the tumour is but slightly vascular, but the pedicle contains many and large blood-vessels, the source of the very profuse bleeding which occurs during any attempt at removal. The mucous covering is also well supplied with vessels, usually of large size, thin-walled, and often varicose,

and it is from these that the hæmorrhage occurs which forms so important and dangerous a symptom.

Nerves are absent, except in the mucous membrane.

That the pedicle springs from the basilar process is certain, and I have been able to find only one undoubted exception to this rule. For a long time it was supposed that these tumours arose from the vertebral bodies, but, as I have already said, this mistake is no doubt partly due to surgeons not being acquainted with the real level of the hard palate. Another source of fallacy may possibly be found in the fact that it is quite easy for a tumour which grows from the basilar process to push its way down between the vertebral bodies and the posterior wall of the pharynx, and this would certainly make it appear that the tumour originated from the bodies.

The exception to which I have referred is recorded by Cruveilhier in his 'Pathological Anatomy.' The patient, æt. 20, died of some other disease, and at the post-mortem it was found that each nostril was blocked by one of these fibrous growths. That on the left side sprang from the periosteum covering the middle turbinate bone, and that on the right from the periosteum just beneath the opening of the sphenoidal sinus; this one consisted of four lobes.

In addition to the primary or true pedicle the tumour becomes adherent to surrounding parts by false pedicles. These adhesions are due to the fact that the adjacent surfaces of mucous membrane become ulcerated, and subsequently may unite. To distinguish the false from the true pedicle is of the utmost importance to the surgeon, since we shall find that recurrence only occurs from the true pedicle, which must therefore be completely removed, whereas if any of the false pedicles be left unremoved the remains undergo atrophy and spontaneous cure. The true pedicle is of extreme density and hardness, the false, on the other hand, being readily broken down with the finger.

The periosteal fibroma, at first more or less pyriform in shape, becomes lobulated as it grows; the various processes grow in the direction of least resistance, into the nose, antrum, and mouth (often by perforating the hard palate), into the sphenoidal sinuses, and sometimes into the frontal sinus through the infundibulum, into the orbit by the pterygomaxil-

lary fissure, or by destroying the lachrymal bone, and lastly into the cranial cavity through the sphenoidal sinus or through the ethmoid.

Processes may also pass into the temporal fossa under the zygoma, or on to the cheek, passing between the pterygoid muscles. In the museum of University College is a specimen showing a process of one of these tumours passing into the Eustachian tube, and out of the external auditory meatus. At the same time the tumour fills up the pharynx, and growing downwards seriously hampers respiration and deglutition. One has but to take up a skull to realise the terrible effects which such tumours are capable of producing, and their speedily fatal results unless promptly and efficiently eradicated.

As a rule, naso-pharyngeal polypi are not prone to undergo degenerative changes, but in some cases there is a deposit of phosphate and carbonate of lime in their substance, giving rise to what has been called the calcifying fibroma.

Should the disease progress slowly and the patient reach adult life, it appears that in some cases at least these tumours tend to undergo atrophy, resembling in this respect the adenoid vegetations met with in the pharynx of young patients.

Sooner or later inflammation and superficial ulceration occur, not only of the mucous covering of the growth, but also of the parietal mucous membrane. This has already been referred to in speaking of the formation of false pedicles.

The inflammatory process may terminate in sloughing of larger or smaller portions of the tumour, the process being frequently accompanied by profuse or even fatal hæmorrhage. In rare cases this sloughing may produce spontaneous cure, while in others the sloughs falling into the larynx produce asphyxia and death. In one case during a severe attack of vomiting the tumour was cast off and cure resulted, but it is highly probable that it was already undergoing separation by sloughing.

SYMPTOMS.

From what has already been said of the morbid anatomy and growth of the periosteal fibroma much will have been gathered as to the train of symptoms which they produce.

The symptoms are mainly those of pressure, and will consequently vary in their nature according to the direction in which the tumour may happen to grow. As a rule, the signs are insidious in their appearance, and are frequently over looked; repeated attacks of "cold in the head," with occasional epistaxis, are usually first noticed. Sometimes the hæmorrhage recurs at infrequent intervals and is trivial in amount, at others it is so profuse and constant that the patient becomes profoundly anæmic, and the fatal termination is materially hastened.

At first there is a constant feeling of uneasiness which produces a desire to blow the nose, a desire rendered the more urgent by being gratified. There is slight respiratory difficulty, and snoring at night. As the growth increases in size, the voice becomes thick and nasal, the pharynx and nose no longer acting as resonating chambers. The patient is now able to breathe only through the mouth, which is consequently always open, giving him a vacant, idiotic appearance, and causing dryness of the tongue and mouth. Growing into the nasal cavities the tumour may project from the nostrils as a fungating, ulcerated mass; it sometimes presses up the nasal bones, flattening them out and broadening the bridge of the nose, and in rare cases even increasing the distance between the orbits; this gives the patient the peculiar appearance known as "frog-face." The nose being filled up by the growth, the sense of smell will be more or less completely abolished; the nasal duct becomes obstructed and epiphora results. The pressure on the nerves produces intense pain, which is not infrequently referred to the forehead, doubtless because the nasal nerve supplies a branch to the mucous membrane of the frontal sinus.

The catarrhal inflammation set up by the presence of the growth and the ulceration of its surface give rise to a fetid, sanguineo-purulent discharge from the nose, and produces intense fœtor of the breath. Moreover, the discharge being

swallowed, causes vomiting and dyspepsia and sometimes gastro-enteritis.

In almost all cases a prolongation extends into the sphenoidal sinus, and may pass into the cranial cavity. Headache, constant and severe; drowsiness, and ultimately coma, meningitis, and compression of the brain may thus lead to a fatal termination.

Extension into the orbit produces proptosis, stretching, and compression of the optic nerve, dilatation of the pupil, diplopia, and ultimate blindness. Sloughing of the cornea may result owing to the pressure exerted on the fifth nerve, impairing its nutrition.

Deafness from pressure on the Eustachian tube is common, and should the tumour grow into the tympanum and destroy the membrane, there will be purulent discharge from the ear, often mixed with blood. Symptoms connected with the ear are usually unilateral.

In addition to the trophic changes in the cornea, pressure on the fifth nerve may lead to paralysis of some of the muscles supplied by it, and to the most agonising pain.

As the growth extends downwards into the pharynx, the dyspnœa and dysphagia become more marked; the difficulty in swallowing will be still further increased by the interference with the free action of the constrictor muscles, until towards the end only liquids can be taken.

Anterior and posterior retinoscopy and examination with the finger behind the soft palate are valuable means of ascertaining the precise attachment and size of the pedicle, and the secondary adhesions which the growth may have contracted. In advanced cases the velum may be seen bulged forwards by the growth, which often projects below it. If it has grown into the antrum the hard palate may be bulged on one side, or even perforated by the tumour. The cheeks may be bulged by processes extending from the antrum, or coming forwards between the pterygoid muscles.

From what I have said, it will be evident that the symptoms differ very considerably in different cases, although all have some certain signs in common, of which, perhaps, epistaxis is the most common and constant. It remains, now, to be seen how these cases terminate fatally.

Undoubtedly, hæmorrhage is one of the greatest dangers. It may be so profuse and so constant as to cause death of itself, as it is too frequently quite beyond control; or it may very much hasten the downward progress of the patient.

In other cases the constant and severe pain, coupled with the slow asphyxia and starvation, are formidable dangers.

Septic bronchitis and pneumonia from the inhalation of septic material from the sloughing mass is fatal in not a few cases.

In others again, perforation of the skull and meningitis ensues, and lastly, in some rare cases, a large portion of the tumour becomes separated by sloughing, and, dropping into the glottis, causes instant suffocation.

Diagnosis.

The diagnosis of naso-pharyngeal polypus is not attended with any serious difficulty. In all cases of repeated epistaxis in patients under twenty years of age, especially if associated with the signs of nasal obstruction, a careful examination with the finger behind the soft palate, under an anæsthetic if necessary, will at once reveal the true nature of the case, and the extent and precise attachment of the pedicles.

A question often influencing the nature and extent of any operative measures to be undertaken will arise in connection with the extent to which the growth has invaded neighbouring parts, and the secondary or false attachments it may have contracted. The latter is an easy matter, the former often impossible. We must be guided almost solely by the pressure symptoms present, and an accurate idea of the extent of the growth is often so difficult to obtain that I think it would be good practice to operate on all doubtful cases, even if it were ultimately found that the tumour could not be entirely removed. Rapidity of growth, with frequent and severe hæmorrhages, especially if the growth is soft to the touch, would suggest the presence of sarcomatous elements in it.

With regard to the differential diagnosis, the tumours most likely to be confounded with periosteal fibroma are those springing from the upper jaw, and extending backwards into

the pharynx. In such cases the age of the patient may be of great value; the history of the case will also throw some light upon the probable origin of the disease. Such growths are usually softer and show a greater tendency to infiltrate than do these under consideration; in some cases they cause enlargement of the cervical lymphatics.

Other causes of nasal obstruction must be carefully eliminated, but with a little care their nature will be at once evident. Among them I may mention septal deviation and abscess, bony and cartilaginous growths from the septum, scrofulous or syphilitic thickening of the mucous membrane, nasal calculi, and foreign bodies, which often cause serious symtoms after long impaction in the noses of children. Mucous polypi will not cause difficulty in diagnosis except in those rare cases in which they grow backwards and form a large mass projecting into the pharynx.

Before leaving the question of diagnosis, I must refer to two rare cases which caused a serious error to be made.

In the 'Archives Générales,' a case is recorded in which an attempt was made to remove by avulsion a supposed polypus of the base of the skull. The patient died of suppurative basal meningitis.

At the post-mortem it was found that there was a five-lobed fibrous tumour growing from the fifth pair of nerves and from the neurilemma; one of these lobes had grown into the orbit through the spheno-maxillary fissure, and another into the nasal fossa after enlarging and passing through the spheno-palatine foramen.

The other case was that of a woman under Cruveilhier's care. She died amaurotic, and with a tumour in the right nasal fossa. At the post-mortem it was found that the supposed polypus was a hernia cerebri containing pus and brain matter, the meninges having become much thickened by chronic inflammation leading to the incorrect diagnosis. Further, it was found that the hernia was due to the presence of a fibrous tumour as large as a hen's egg which grew from the upper surface of the tip of the petrous bone, and had caused much compression of the brain.

A case of hernia cerebri through the ethmoid which occurred at University College Hospital some years ago was also mis-

taken for one of these polypi, and the case terminated fatally owing to the attempts made to remove the tumour.

Prognosis.

If left to themselves basal polypi almost invariably terminate fatally, spontaneous cure occurring very rarely. The younger the patient—and the disease may occur in infants—and the softer the growth the greater the gravity of the prognosis. The prognosis will depend in great measure upon the duration and extent of the disease, headache, drowsiness, and cranial symptoms being especially bad symptoms. Repeated hæmorrhages, by lowering the resisting powers of the patient, very materially accelerate the fatal issue, and the same may be said of sloughing, since the fetid discharges swallowed upset digestion.

With regard to the question of recurrence, there can be no doubt, on looking over the recorded cases, that unless the pedicle be completely destroyed, the growth will reappear at an early date.

Lung complications are very serious and frequently fatal.

Treatment.

The only treatment of the least avail in cases of basal fibroma is complete removal by one or other of the many operations which have been devised. As far as I am aware, no medicinal treatment is of the least avail.

In selecting any operation it is absolutely necessary to make as accurate a diagnosis as possible of the seat and extent of the growth.

There is, perhaps, no surgical affection for the relief or cure of which so many operations have from time to time been devised and practised.

In some cases their removal has been attempted *per vias naturales*, through the nose or mouth, but more usually it has been found necessary to enlarge one or other of these passages or both by removal or resection of the upper jaw. If the attempt

is made to remove the polypus without enlarging the natural openings it will be found most convenient to work through the nose and mouth at the same time. In considering the various operations I propose to take each separately, so far as is practicable, and point out the advantages and objections to them.

Ligature was practised by the oldest surgeons in the treatment of these cases, but Levret, the French surgeon, perfected the method, and claimed much for it as an operation.

A stout ligature is passed through the nose and adjusted round the pedicle by the finger through the mouth,—by no means an easy proceeding. It is then tightened and the mass allowed to separate by sloughing.

Now, it is evident that in doing this the pedicle will be constricted, not at its very base, but in its continuity, so that there will remain a stump which will almost inevitably start a new growth, although it is true that in a few recorded cases this was not the case.

Levret compared this treatment of the pedicle with that of the umbilical cord, and supposed that when the growth had separated the stump would wither up; but I would point out that the analogy is a false one, for we must, I think, draw a very distinct difference between a pathological structure and a physiological one, whose destiny it is to wither away when its physiological life has ceased; the cord has a definite function to perform like any other organised structure, and that being ended, it only remains for the cord to die.

In any case constriction, whether applied by the ligature or écraseur, can only have a very limited application, since it can only be used in cases where the pedicle is long and slender.

During the sloughing of the ligatured portion the patient is subjected to the risk of septic absorption or pneumonia, and in some cases the slough has fallen into the trachea and caused asphyxia; in others the mucous membrane has become much swollen, and the œdema has extended to the glottis, causing death.

Avulsion was practised long ago by Ambrose Paré, Albucasis, and Fabricius of Aquapendente. It is performed through the nose with curved forceps, as slender as is compatible with sufficient strength. Besides other dangers, that

of profuse hæmorrhage is very great, and in some cases has necessitated abandonment of the operation, either on account of its quantity or from its passing into the trachea and suffocating the patient. We must also remember that any attempt at forcibly tearing away these tumours may tear away pieces of bone which have become thinned by the growth, and so open up the cranial cavity.

Avulsion very rarely indeed would prove successful, since some part of the growth would almost certainly remain behind.

Excision is difficult and dangerous on account of the free hæmorrhage which it occasions, and it is not successful in removing the whole growth. It is really only applicable to those cases in which complete extirpation is not thought of, and pieces are removed as a palliative measure. Wathely successfully removed a large polypus by a combination of excision and ligature; the ligature was passed round the pedicle and used to draw it forward, it was then divided with a bistouri-caché.

Electrolysis and cauterisation were first used in the treatment of naso-pharyngeal polypi by Nélaton, but cauterisation with the hot iron was practised by Hippocrates. In Nélaton's first case he used a Bunsen's file with nine plates. Six sittings were required at intervals of nine days; a complete cure resulted. In some cases the stump of the pedicle has been further cauterised with chloride of zinc or Vienna paste, or with the strong acids, but in this method there is the danger that some of the caustic may fall into the glottis.

Although cauterisation *per vias naturales* is difficult to accomplish and unsatisfactory in its results, there can, I think, be no doubt that it is the way to remove the tumour when its pedicle has been thoroughly exposed by some artificial opening. The cautery, if not used at too great a heat, effectually prevents much hæmorrhage and destroys the pedicle entirely.

Crushing.—Velpeau was the first to endeavour to cure these polypi by crushing them, believing that if part of the growth were crushed it would slough away, and the pedicle would atrophy. But the disadvantages of this method are such that it has been long since abandoned.

The introduction of a *seton* through the pedicle and removal by the *raspatory* have both had their advocates, but the former has the same disadvantages as ligature, and the latter is accompanied by too severe hæmorrhage, although Michaux records five cases he treated in this way, three being successful.

So much then for the operations *per vias naturalis*, operations attended with great dangers, difficult in their execution, and disappointing in their results.

At the best they can only be considered as palliative, since it is almost certain that the pedicle will not be completely destroyed. The operations employed for the more perfect exposure of the pedicle of these growths either aim at enlarging the nose or mouth, or both cavities at once.

In 1840 Flaubert of Rouen, removed the upper jaw in order to remove a naso-pharyngeal polypus. The case was successful, and many others were soon recorded by French and English surgeons. But the dangers of removing the growth were very materially increased by such a severe method of exposing it, and the removal of the jaw carrying with it the alveolar border caused serious deformity; consequently surgeons began to look for some less formidable method.

In the last century Manne of Avignon, conceived the idea of dividing the soft palate in the middle line, and so exposing the base of the skull, and in 1747 he published a pamphlet describing the operation, and giving illustrative cases. Precisely a hundred years later, 1847, M. Nélaton further elaborated this operation by reflecting the mucous membrane from the hard palate, and then removing the bone forming the roof of the mouth. By this procedure he opened up the nasal fossa and fully exposed the basilar process. He did not endeavour to reunite the soft structures for some time, and so could watch the seat of the growth, and at once treat any sign of recurrence.

Nélaton's operation consisted of three distinct stages, the last one being performed some time after the second, varying according to circumstances.

1st. Removal of the palatine arch.

2nd. Removal of the polypus.

3rd. Staphylorraphy.

Nélaton removed the growth with curved scissors, and then cauterised the base at intervals, staphylorrhaphy not usually being done until some months after, when it was quite certain that the tumour had been completely eradicated. At the present day it would be better, I think, to remove the growth with Paquelin's cautery, and close the palate at once, care being taken that its edges were not burnt during removal of the polypus.

The operations practised on the nose seem to me much preferable to Nélaton's, which certainly involves no inconsiderable risk of cleft palate.

As long ago as the time of Hippocrates attempts had been made to reach these tumours by slitting up the nose, but no definite advance was made until Chassaignac devised and practised an operation by which the nose was turned over to one side.

An incision is made from the inner angle of one orbit, say the right, across the root of the nose, down the left side, and round the ala to the middle line of the lip. The nasal process of the superior maxilla is divided, and so are the nasal bones, the cartilage of the septum is divided with scissors, and then the nose is turned over to the right side. If more room be needed it can easily be obtained by chipping away the vomer and turbinate bones. The polypus being thus exposed, Chassaignac removed it with the écraseur, but, for the reasons already given, the Paquelin's cautery would be the best.

Lawrence opened the nasal cavity by a different and, to my mind, much better way. He commenced his incision at the inner angle of one orbit, then continued it down the side of the nose, across the upper lip, and up on the other side to a corresponding point. The soft parts below are then dissected up, and the nose opened, the nasal process of each superior maxilla is cut across, the septal cartilage divided with stout scissors, and the nose turned upwards towards the forehead, the nasal bones being broken across. The opening can then be enlarged by removing the vomer and flattening the turbinates against the outer wall of the nasal cavity.

Ollier, of Lyons, did a similar operation, only, if I may be allowed to use the term, upside down. The incision beginning at the side of the ala, extending upwards, across the

root of the nose, and down the other side. The nasal processes and nasal bones were cut across, the septum divided, and the nose turned downwards.

Lawrence's method appears to me the better, since the nose is turned upwards and is not in the way of the operator, and again, the nasal bones, although broken across, are still attached by periosteum, and do not therefore run much risk of necrosing. I have performed Lawrence's operation on three occasions successfully, and was much pleased with the result—hardly a trace of deformity resulting. It is certainly the operation I should select, unless there were special reasons for doing any other.

Von Langenbeck devised two operations for getting at these polypi. The first one, performed in 1859, resembled very closely the procedure I have described as Chassaignac's. In 1861 Langenbeck performed his second operation. A curved incision is made from the inner angle of the orbit to the middle of the lower border of the malar bone, the convexity being downwards. The masseter is then divided at its origin as far as it is exposed in the wound, the mouth is widely opened, and a saw is passed in at the spheno-maxillary fossa and carried to the spheno-palatine canal, coming out in the pharynx, above the soft palate, which should be protected by the finger. The bone is now sawn obliquely in the line of incision in the soft parts, the orbital and dental portions of the jaw being thus separated. A second incision is carried from the nasal process of the frontal along the lower margin of the orbit, and meets the first at the zygoma. The nasal process of the frontal and orbital process of the malar are then divided. The piece of bone thus isolated is now forced forwards by means of an elevator put behind it. The polyp is then removed, and the luxated bone replaced.

Hugueir, following von Langenbeck, performed a somewhat similar operation, only, instead of dislocating the upper part of the jaw, he displaced the lower half.

Roux devised a method for dislocating the whole upper jaw, but as far as I can ascertain, it has never been performed on the living subject.

All these operations, involving partial or total resection of

the jaw, are difficult of performance and accompanied by very profuse hæmorrhage. In the two cases in which I removed these polypi I did a preliminary laryngo-tracheotomy and plugged the pharynx with a sponge, a precaution which I had reason to be very glad I had taken.

Nélaton's operation would, I think, be suitable for those extensive cases in which the polypus completely obstructs the nasal passages, so that it would be extremely difficult to get at the pedicle through the nose, but in other cases I should myself give the preference to Lawrence's method.

Dangers during and after Operation.

Undoubtedly the great danger in operating on naso-pharyngeal polypus is from hæmorrhage. It is so profuse because the divided vessels at the seat of these tumours are embedded in dense tissue and are consequently unable to retract. It may be fatal from its amount, but this will not usually be the case if the cautery is used, or by getting into the trachea may asphyxiate the patient; should there be any danger of this the head should be turned over the end of the table, and the blood will escape by the nostrils, but this dependent position of the head tends to increase the bleeding. Finally, it may cause death at a later period by setting up pneumonia.

As I have said, I should always prefer to open the trachea as a preliminary to any operation. The use of Trendelenburg's tampon tube is open to the objection that when the tampon is inflated it sometimes sets up so much irritation in the trachea, exciting severe coughing, that it cannot be tolerated; it would therefore be better to use the ordinary tube and plug the pharynx with a sponge. The tube might safely be removed directly after the operation, but in the cases I have operated on I have preferred leaving it in for twenty-four or thirty-six hours.

The use of the cautery necessarily entails a good deal of sloughing of the charred tissues, and consequently there is danger of septic absorption or of septic bronchitis and pneumonia.

These dangers are very materially lessened by the free use of iodoform, which can be blown on to the raw surface by means of a blower introduced through the mouth behind the soft palate, and in addition a nasal douche of permanganate of potash may be used three or four times a day.

It is a common experience that after the removal of these polypi the patient suffers from intense headache, principally referred to the occipital region, but it usually passes off in a few days. Sometimes basal meningitis ensues, either as the result of inflammation extending through the basilar process, or because the wall of the sphenoidal sinus has been injured during the removal of processes of growth filling it, and thus the cranial cavity has been opened, probably even the brain injured.

THE VALUE OF TAR

IN THE

TREATMENT OF WINTER COUGH.

By Dr. MURRELL.

For some years past we have used tar in the out-patient department with considerable success in the treatment of winter cough. This complaint derives its importance, not from its fatality, but from the fact that it returns year after year with unvarying regularity, rendering the life of the patient miserable, and incapacitating him from following his avocations. We recognise it clinically, being only too familiar with its salient features, although curiously enough it corresponds to no definite pathological condition, and may be said to be of a somewhat composite character, including as it does cases of bronchial catarrh, chronic bronchitis with or without emphysema, bronchiectasis, and a small percentage of quiescent or arrested phthisis.

The literature of tar as a remedial agent is extensive. The works of Axtius and Roberg, which appeared respectively in 1679 and 1714, call for but passing notice. The most solid contribution to the subject is the remarkable work of the Right Reverend Dr. George Berkeley, Lord Bishop of Cloyne, entitled "Siris, or a Chain of Philosophical Reflexions and Inquiries concerning the Virtues of Tar Water and divers other subjects connected together and arising one

from another." The first edition was published in 1744, and the second, "improved and corrected by the author," in all probability in the following year, although it bears no date on the title-page. It appeared first in Dublin, was reprinted in London, and was subsequently translated into French, German, Dutch, Swedish, and other languages. It covers 176 closely printed pages, and is divided into 368 sections. Copies of it are now rare, but it is still occasionally to be met with on the second-hand bookstalls both in London and Paris. The learned writer says: "In certain parts of America tar-water is made by putting a quart of cold water to a quart of tar, and straining them well together in a vessel which is left standing till the tar sinks to the bottom. A glass of clear water being poured off for a draught is replaced by the same quantity of fresh water, the vessel being shaken and left to stand as before. And this is repeated for every glass, so long as the tar continues to impregnate the water sufficiently, which will appear by the smell and the taste. But as this method produceth tar-water of different degrees of strength, I chuse to make it in the following manner: Pour a gallon of cold water on a quart of tar and stir it and mix them together with a ladle or flat stick for the space of three or four minutes, after which the vessel must stand eight and forty hours, that the tar may have time to subside, when the clear water is to be poured off and kept for use, no more being made from the same tar, which may still serve for common purposes."

The author continues:

"Having tried it in a great variety of cases I found it succeed beyond my hopes; in a tedious and painful ulceration of the bowels, in a consumptive cough (as appeared by expectorated pus), an ulcer of the lungs, in a pleurisy and peripneumony. I never knew anything so good for the stomach as tar-water; it cures indigestion and gives a good appetite. It is an excellent medicine in an asthma. It imparts a kindly warmth and quick circulation to the juices without heating, and is therefore useful not only as a pectoral and balsamic, but also as a powerful and safe deobstruent in cachectic and hysteric cases. As it is both healing and diuretic it is very good for the gravel. I believe it to be

of very great use in a dropsy, having known it cure a very bad anasarca in a person whose thirst, though very extraordinary, was in a short time removed by the drinking of tar-water."

This paper, by the author of the 'Minute Philosopher,' was followed by a number of pamphlets in reply to it, the best known being 'Anti-Siris or English Wisdom Exemplify'd by various Examples, but particularly the present General Demand for Tar Water, on so *unexceptionable* Authority as that of a R——t R——d Itenerant Schemist and Graduate in Divinity and Metapisicks. In a Letter from a Foreign Gentleman at London to his Friend Abroad,' and 'A Cure for the Epidemical Madness of Drinking Tar Water from Ireland. By a certain R——t R——d Doctor. In a Letter to his L—— P. By T. R.'

This second production is usually attributed to Dr. Thomas Reeve, and is well worth reading. Bishop Berkeley, in 1747, published 'Two Letters on the Usefulness of Tar Water in the Plague,' and this was followed some five years later by 'Further Thoughts on Tar Water.' Amongst other works which appeared about the time may be mentioned Hale's 'Account of some Experiments and Observations on Tar Water,' and the 'Programma quo infusum Picis liquidæ aquosum declaratur' of Quelmalz.

In 1823 Sir Alexander Crichton produced a work entitled 'Practical Observations on the Treatment and Cure of Several Varieties of Pulmonary Consumption, and on the Effects of the Vapour of Boiling Tar in that Disease,' in which he gives details of some wonderfully good results. He points out that "tar as it comes to market is generally found to be contaminated with more or less pyroligneous acid, which fluid, being very volatile, is disengaged long before the tar boils, and as it is irritating and hurtful to the lungs, must be got rid of or arrested. For this reason, the tar, before being brought into the bedroom of the sick, ought to be boiled for a few minutes in the open air, and then to every pound of it ought to be added from one to two ounces of the subcarbonate of potash." He points out that the simplest way of impregnating the air of a room with tar is to put "about a pint or upwards of the prepared tar into

a flat dish, of iron, copper, or earthenware. This is to be placed on a stand about a foot from the ground, so as to admit a suitable lamp under it. The apparatus must not be placed too near the patient at first, because it is impossible to say beforehand how it may affect him, and in what degree of force he can bear it. In whatever part of the apartment it is placed the air is soon charged with the vapour."

In 1860 Sales-Girons published a work of some 500 pages entitled 'Traitement de la Phthisie Pulmonaire par l'inhalation des liquides pulvérisés et par les fumigations de Goudron," in which a similar mode of treating chronic bronchitic affections is advocated. The results, judging from the statements of the author, seem to have been eminently satisfactory.

The drug referred to is not, as is often supposed, coal-tar, but wood-tar, the *Pix liquida* of the British and United States Pharmacopœias. It is prepared by destructive distillation from the wood of *Pinus Sylvestris*, the Scotch fir, or from the *Pinus palustris* of the Southern States of America. The wood is cut into billets of a convenient size, which are heaped up so as to form a stack or pile, and covered with earth as in the process of making charcoal. The stack is built up upon a circular mound of earth higher at the circumference than in the centre, where there is an opening communicating by a conduit or outlet with a shallow ditch surrounding the mound. A light is applied at the top, and the whole mass is allowed to burn slowly, so that the resinous matter is melted out by the heat. The tar runs down the hole in the centre, and passes along the conduit into the ditch, from which it is transferred into barrels. Immense quantities are prepared in North Carolina and Virginia, enough to tar all the rails in the States, and cure the coughs of the world besides.

In our earlier observations in the out-patient room the tar was prescribed in the form of pills, each containing two grains. Patients suffering from chronic bronchitis were directed to take two of these pills every four hours. At first the pills were made up with "bread mass" made as follows :—

"Wheaten flour, one part; glycerine, five parts by weight. Mix and beat together until a jelly is formed; when cold add six parts of wheaten flour, and beat well together."

The pills were large and generally unsatisfactory, and the patients objected to take them. We next tried mixing the two grains of tar with a grain of wax, and two grains of powdered liquorice root. These pills were bulky and nasty, and they could not be coated, as the spirit commonly used in the process dissolves out the tar. Subsequently the pills were made by a much simpler method—by mixing with the tar half its weight of lycopodium, the sporules of *Lycopodium clavatum* and other allied species. This formula was found to be fairly satisfactory, and after a good many trials it was adopted, and introduced into the Westminster Hospital Pharmacopœia.

Tar is very conveniently prescribed in the form of perles or capsules. The perles contain from two to three grains in each, and the capsules four or five grains, although they vary somewhat in size and capacity. There are several other preparations of tar in use on the Continent, where it is a favourite remedy. The Dragées de Christiania au Goudron de Norvège are elegant little bonbons, each containing five grains. The worst of them is that they are too expensive for hospital use.

The pills were satisfactory, but we were anxious, if possible, to obtain a good fluid preparation, so that the tar might be administered in suitable cases in combination with other remedies. After a good many trials we decided to use the Syrupus Picis or syrup of tar of the United States Pharmacopœia, which is made as follows:

"Tar, three ounces; cold water, five ounces; boiling distilled water, twenty ounces; sugar, in coarse powder, twenty-eight ounces. These quantities are required for making two pints. The cold water is poured on the tar, and it is shaken up frequently for twenty-four hours, after which the water is thrown away. The boiling water is next poured on the washed tar, and the mixture is stirred frequently for thirty-six hours. The solution is then decanted and filtered, and finally the sugar is dissolved in seventeen ounces of the tar, and it is all mixed up together."

This seems a somewhat complex process, but the directions should be strictly followed. The preliminary washing with cold water is necessary to get rid of the acid principles, which, if allowed to remain, prove irritating. It is an inexpensive medicine, costing practically nothing but the trouble of making. The dose of this preparation, which may be prescribed as Syrupus Picis Liquidæ, or Sirop de Goudron, is a tablespoonful given frequently. It is reputed to be a 4 per cent. solution, but it is difficult to say exactly how much is taken up, as, from the addition of water, the tar weighs after the process rather more than it did before. It is palatable, but it tastes distinctly of tar, and some patients dislike it. For these hypercritical individuals it may be flavoured with syrup of Virginian prune made according to the following formula:

"Wild cherry bark in fine powder, five and a half ounces, sugar, in coarse powder, twenty-eight ounces, glycerine two ounces, water a sufficient quantity. To make two pints. The wild cherry is thoroughly moistened with water and macerated for twenty-four hours in a closed vessel. It is then packed firmly in a cylindrical glass percolator, and water is gradually poured upon it until fifteen fluid ounces of percolate are obtained. The sugar is then dissolved in the liquid by agitation without heat, the glycerine is added, and the process is complete."

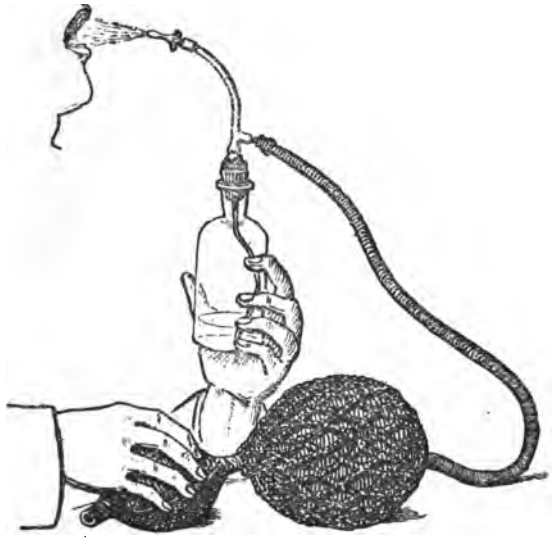
A mixture of two parts of syrup of tar and one part of syrup of Virginian prune is an ideal cough mixture. It has a sweet agreeable taste, and patients as a rule like it. When the cough is very irritable and there is very little secretion, the addition of three minims of Liquor Morphinæ Acetatis will be found most useful. When a more decided expectorant action is required, a little hydrochlorate of apomorphine may be added. Everyone knows that apomorphine is an emetic, but many people forget that it is one of our best expectorants. We use the 2 per cent. solution of the British Pharmacopœia, the Injectio Apomorphinæ Hypodermica, and it is hardly necessary to say that we do not expect it to be "freshly prepared," knowing that the change of colour which it undergoes on keeping in no way impairs its properties. From three to six minims may be

given frequently without exciting nausea, and many patients take ten without difficulty.

We have used with some success Blount's aromatic oil of tar, which is apparently a solution of tar in old Jamaica rum. The results have been good, and the preparation is popular with patients. Mr. Tanner makes a compound syrup of tar, which is also efficacious.

Should the patient fail to obtain relief in a week, we make him come daily and inhale the ipecacuanha spray from either a Richardson's handball apparatus (Fig. 1) or an improved

Fig. 1.



form of Siegle's steam diffuser (Fig. 2). This throws a great deal of extra work on the clinical clerks, but they are always willing to assist in the work of the Department. Much benefit is experienced from the use of the Vereker chloride of ammonium inhaler (Fig. 3), which is by far the best obtainable. A few drops of acetic acid and tincture of litmus are added to the water in the wash-bottle, and as long as the red colour is maintained it is impossible for any free ammonia to pass over. By putting a few drops of pinol, pure terebene, oil of sandal-wood, or oil of cubebs on a piece of absorbent

cotton-wool and introducing it into the water in the wash-bottle, the vapour of these substances may be applied direct to the mucous membranes of the bronchial tubes. Most of

FIG. 2.

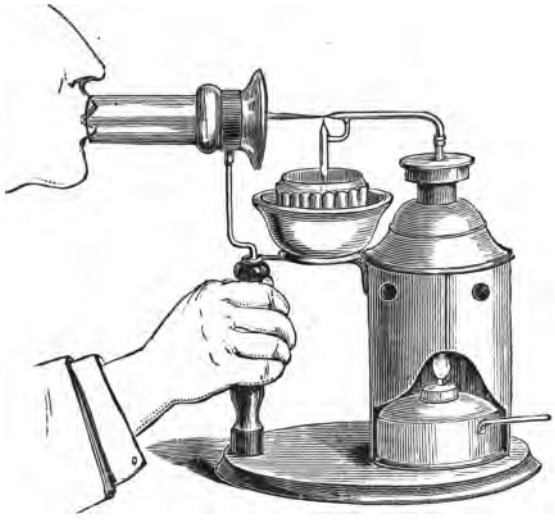
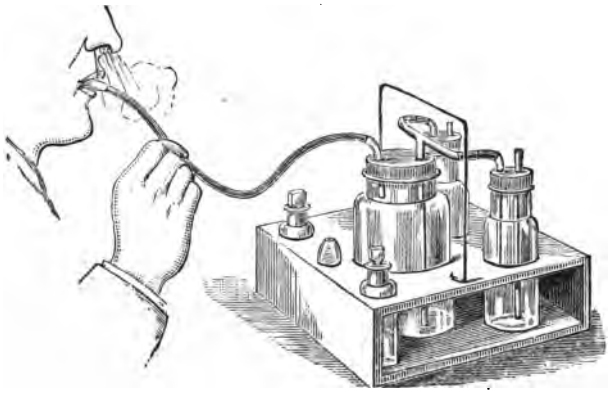


FIG. 3.



our patients suffering from winter cough obtain sufficient relief to cease attending in from fourteen to twenty-one days. We have notes of many cases illustrating each

and all of these points, but space will not admit of their introduction. My best thanks are due to Mr. James R. Plant, Mr. Eber Caudwell, Mr. E. Lucas Hughes, Mr. Lake, Mr. Coleman, Mr. Forster, Mr. Morgan, Mr. Passmore, and other gentlemen who from time to time have assisted me in the work of the Department.

DIABETES IN SURGICAL CASES.

By W. G. SPENCER.

Before giving in detail the three cases which have been under my care in the hospital during the last year, I propose to consider some points which arise in diabetic patients as seen by the surgeon.

An early diagnosis is imperative, because surgical procedures have to be restrained within narrow limits, and because the immediate commencement of the special medical treatment will frequently have the best effect on the surgical lesion.

To give some idea of the actual frequency with which surgical accidents complicate diabetes, I may quote Andral's Table of eighty-four cases; four of these had gangrenous complications, three gangrene of the leg, and one of the lungs. Griesinger found among 225 cases of diabetes twenty-two with purulent and gangrenous complications. Six of these had boils and carbuncles, four phlegmonous gangrene, two pseudo-erysipelas, four gangrene of the foot, six pneumonia (gangrenous), and one abscess.

When sugar has been found in the urine an important question requires to be decided,—Is the patient suffering from DIABETES MELLITUS? or is the sugar the result of an ephemeral GLYCOSURIA? and in speaking of glycosuria I mean sugar in the urine in a definite quantity, not a mere trace.

If there is a reliable history that the patient under examination has previously suffered from diabetes mellitus, the prognosis takes a much more definite form, and the history will be the more valuable if it comes from a medical man. But there may be no history of any diabetes; the patient may pass for a day or two large quantities of sugar, 20 grs. to the ounce per diem or more, and yet after that time the sugar may rapidly diminish and completely disappear. Another patient may pass only small quantities of sugar, and yet be as liable to accidents as if he were passing it in large amounts. The constant presence of sugar, however small the amount, indicates that the disease is diabetes, for the time being chronic, but which at any period may assume an acute phase.

There are several classes of cases in which glycosuria is common. Injuries to the head and spinal cord are often the cause of sugar in the urine. The sugar may last for a few hours only or for a few days. As a rule it quickly disappears, but in some the sugar persists, and the patients commence to be diabetic from the time of the injury. The sugar produced by experiments on animals is also of a temporary nature. But an actual physical injury to the brain is not necessary. In one case of which I have notes the diabetes dated from a severe mental shock causing partial loss of consciousness, but my notes end when the amount of sugar had become largely reduced. Ephemeral glycosuria is not uncommon with inflammatory affections of the skin and subcutaneous tissue. Patients with cutaneous erysipelas, cellulitis, lymphangitis, exhibit glycosuria, it also appears towards the end of such cases as septicæmia. But it is in carbuncles and severe boils that it is most frequent. Carbuncles no doubt occur in the course of diabetes, but in patients who have not suffered from diabetes before, sugar appears in the urine when the carbuncles become acutely inflamed. I have notes of cases of carbuncle which has developed in patients while under observation, so that immediately before the carbuncle the urine contained no sugar. The glycosuria occurring with carbuncle rapidly diminishes after a day or two, and disappears entirely before the carbuncle heals. In several cases the sugar has disappeared

from the urine on the day on which the site of the carbuncle has become scarred over. But here again a patient who has never had sugar in the urine previous to the carbuncle may show sugar after healing has been completed, and later on become without doubt diabetic.

Glycosuria has been noted in rapidly extending malignant disease, apparently in connection with the foul condition of the surface of the growth. In one case of epithelioma of the back of the hand sugar was present in the urine in considerable amount, but it disappeared after local treatment. The man refused amputation, and in consequence was lost sight of.

Severe traumatic injuries to a limb give rise to glycosuria,—a large contused wound which suppurates, or a compound fracture,—but especially traumatic gangrene. In the absence of a reliable history there is great difficulty in diagnosis. If the traumatic gangrene is not removed by amputation the patient is in imminent danger of septic poisoning. If the glycosuria is secondary to the traumatic gangrene the sugar will disappear directly amputation has removed the source of the septic poisoning. If, however, the patient has previously suffered from diabetes, and the gangrene has supervened on some slight injury, then an amputation will be almost certainly fatal from diabetic coma. Sugar is often found in women with abscess of the breast. But they are generally suckling; and sugar, perhaps milk sugar, is to be found in the urine of women when suddenly stopped in suckling.

Gouty patients suffer also from intermittent glycosuria. Sir Dyce Duckworth has a paper on this in the 'St. Bartholomew's Hospital Reports' for 1882. It is important to remember it in some cases of dry gangrene of the extremities in gouty patients, for the prognosis may be favorable if the kidneys are in a tolerably good state.

These surgical conditions with glycosuria have thus a fairly bright prognosis, but there are other surgical conditions which, when seen, immediately suggest the presence of diabetes.

Diabetic urine is apt to cause excoriation about the ends of the penis. At first eczematous in appearance, attacking

the glans and prepuce as a balanoposthitis, a progressive thickening of the prepuce takes place, with contraction especially of its lower ring. The resulting phimosis further increases the local disease by retaining beneath the prepuce the discharges from the glans. Thus ulceration with a foul discharge arises. A hasty view may decide in favour of the condition being venereal, and circumcision be undertaken. A circumcision in a diabetic patient is attended with great risks; very often septicæmia, or diabetic coma and death follows. In some cases where circumcision has been done in diabetics recovery has taken place, but only after extensive sloughing and destruction of the penis. But when the urine has been examined before performing any operation the diabetes will be recognised. In some cases of sloughing sores some glycosuria may be found, apart from any diabetes, but this will rapidly pass away in a day or two. In these cases of phimosis arising in diabetics, any surgical measures should be avoided, and the medical treatment thoroughly resorted to; this, with local cleanliness, will quickly improve the condition. Even so simple a measure as splitting the prepuce is not unattended with risks. The splitting causes small cracks, and these become swollen and everted, and sloughing to a greater or less extent takes place. A simple method of preventing the diabetic excoriation of the genitals was told me by Dr. Brunton. The patient should carry a damp soft sponge in a sponge bag in his pocket, and after each micturition he should wipe the penis, in order that no urine may remain on it.

Perforating ulcers are also found in diabetics, quite apart from locomotor ataxia. Many cases have been recorded in which the patients have had an indurated chronic ulcer on the foot, from which has started without warning a fatal gangrene. The exact connection of these ulcers with diabetes is not quite clear. Changes in the nerves supplying the foot have been found by Mr. Bowlby and others. Pain in the distribution of a nerve may be met with, apparently from changes in the nerve, and distinct from the neuralgia to which diabetic patients are subject as a consequence of anæmia and exhaustion. Also in these cases

of perforating ulcer there may be a bad blood supply together with œdema, as a consequence of atheroma and thrombosis of the arteries. Some of these chronic ulcers commence as a localised patch of gangrene in consequence of a diminution in the arterial supply, and the ulcer remains stationary for a long time. Here again an early medical treatment will best tend to cure the ulcer.

It is to be regretted that the cases of diabetes and of glycosuria are so mixed together in the published notes. Successful and unsuccessful terminations are thus placed in wrong categories. On the one hand successful amputations are recorded as having been done in patients suffering from diabetes mellitus. All amputations in diabetes have been fatal within my observation. I have read closely some of these successful cases, and in nearly all the presence of sugar in the urine is mentioned only at the time of operation. No evidence is given that the patients had been previously suffering from diabetes mellitus. The proof in such goes no further than that the patients had glycosuria, and as in them the sugar disappeared after the operation it seems more likely that the sugar in the urine was caused by the irritation of the injured and gangrenous limb which the amputation removed.

On the other hand deaths are ascribed wrongly to diabetes. A spreading gangrene of a limb ends in coma and death; sugar is found in the urine, and death from diabetic coma is recorded. If the patient has not suffered from diabetes before, the death in coma may be the termination of septicæmia set up by the spreading gangrene, the septicæmia at the same time causing the glycosuria. The same may be said of carbuncle.

From the surgical point of view as well as from the medical, I would divide the cases of diabetes into two classes. In young patients the disease runs a more or less rapid course, and generally ends fatally. In older people the course is much more chronic, and it may last for years with little injury to the general health. I find no cases recorded of gangrene in young diabetics. In them a slight injury may bring on diabetic coma, or the smallest wound set up fatal septicæmia. Most operative measures are

avoided in them, yet some are done. There is to a certain degree an uncertainty or irregularity in the effects of injuries which resemble the uncertainties and irregularities in diseases recognised as infectious, and in them explained by the variations in external circumstances with regard to the entrance of living organisms.

It may be that the fluids of the body, altered by the presence of sugar, form more suitable surroundings for the growth of micro-organisms.* The fur on the tongue is composed largely of micro-organisms, and they are in contact with the saliva containing sugar. The urine wets the prepuce and glans, and, containing sugar, favours the growth of moulds, and starts the excoriation of the genitals. Boils and carbuncles are believed to arise from the entrance of micro-organisms through the skin by means of the sweat-ducts and hair-follicles, and the sugar in the blood, favouring their growth, may account for the frequency of boils and carbuncles in diabetes. Sugar is contained in the discharges from wounds, and so the growth of septic organisms in the wounds may be favoured. Wounds in diabetes do not heal well, they tend to suppurate, there is greater primary hæmorrhage, and increased liability to secondary hæmorrhage. Acute inflammation, localised or spreading gangrene, or septicæmia are prone to arise from a wound. All these conditions resemble septic processes. It would seem as if our present aseptic measures, sufficient in ordinary cases, were insufficient to arrest the growth of micro-organisms when it is favoured by the presence of sugar. The rapid pulmonary gangrene and the slower progress of tuberculosis may be favoured in the same way. Where the micro-organisms are excluded suppuration does not take place. A simple fracture in a diabetic has never been known to suppurate, nor does the lens as it becomes cataractous set up general inflammation of the globe. In young diabetics some operations are dangerous, others only slightly so. A scratch on the hand or foot, or venæsection, has caused diabetic coma and death; and a circumcision has been attended with disastrous results. In others the operation has been attended with wide sloughing. Cataract operations are generally done in young diabetics, especially after the patient has been

* *Vide* Postscript.

improved in general health by medical treatment. But the operation is not free from danger, viz. from death in coma. I have made inquiries, and have heard of several cases occurring at intervals in London. One happened last year. Death has also happened after needling or couching. A surgeon told me that he performed lithotrity in a diabetic without any bad symptom.

I learn from Dr. Matthews Duncan that childbirth in diabetic women is not especially liable to be followed by acute inflammatory processes, or by diabetic coma, the danger being from the exhausted condition of the patient. There are, nevertheless, numbers of cases recorded in which death with acute inflammatory symptoms have followed slight scratches, pricks, &c. I would submit that the difference is due to the entrance or the failure to enter on the part of septic organisms.

In older patients we have chiefly to do with a disease of a chronic character. The diabetes may continue for years without affecting the general health, although at any time an acute stage may come on. In these cases there appears a most important complication,—alcoholism. Gangrene forms the most common surgical complication. Some slight injury, a chronic ulcer, or what is not uncommon, a perforating ulcer of the foot, is the starting-point. If the gangrene does not rapidly spread there is time to employ medical treatment. But the gangrene is so often complicated with alcoholism, and under the evil influence of both factors rapidly spreads. Likewise also the severe carbuncles occur in those who are not only diabetic but whose tissues have been further degenerated by alcohol.

All operations have been fatal, as far as I have read, where the patient was suffering from diabetes and from the effects of alcohol. There are a few cases recorded of gangrene in which a line of demarcation has formed, generally about the ankle; and after the formation of the line of demarcation amputation has been successful. In the same way a patient may survive a carbuncle, but in both cases only those who have been temperate.

In glycosuria, therefore, when the local conditions demand it, an operation will lead to a recovery of the patient and

a disappearance of the sugar. In diabetes mellitus the risks of an operation in a young subject are very great; perhaps they may be diminished by more complete aseptic measures. In older patients, unless a line of demarcation forms, it is hopeless to operate, especially in the presence of general alcoholic degeneration of the tissues.

CASE 1.—A hairdresser, æt. 51, was admitted to the hospital on September 7th, 1887, with a wound on the inner side of the left knee. A week previously he was using a chisel, when it slipped, and the blow drove it into his left leg on the inner side of the patella. The small wound bled slightly and he covered it with some rag. After two days his knee became painful. He had been a hard drinker. He had suffered for two years from excessive thirst, and passed urine two or three times during the night. The lower part of the thigh and knee were obviously much swollen, and on pressing with the hand on the patella, pus spurted from an ill-looking wound on the inner side of that bone. Temp. 100·4°. Urine 1040, acid, no albumen. A large quantity of sugar.

Under ether, the finger passed through the wound into a large cavity on the inner side of the knee, with sloughy walls. Thence the finger passed into the knee-joint. There was also a large abscess cavity under the quadriceps extensor tendon. Openings were made, drainage-tubes passed, the joint and the abscess cavities washed out. Bread and potatoes were withdrawn from the diet. He took codeia, gr. ss, every six hours, also ammonia and bark.

For the next eight days his temperature varied from 99° morning to 100° evening. He passed daily about 100 oz. of urine, containing about 20 gr. to the ounce of sugar. The knee-joint and cavities above it drained well, but there was an absence of all signs of healing.

On September 16th his evening temperature rose to 104°, he became drowsy, and died on September 20th, about twenty days after the accident. The proportion of sugar in the urine did not diminish. His breath smelt sweet. The blood contained fat-globules.

Post-mortem.—There was a well-marked sweet odour to the cadaver. The kidneys were slightly granular. The knee-joint was free of pus. The abscess cavities above the knee almost surrounded the lower third of the femur, there was no collection of pus, but the walls were sloughy; no part of the femur was bare. The femoral and external iliac veins and the rest of the leg were perfectly healthy.

Remarks.—The local condition was such on admission that, taken with the age, an amputation would probably have afforded him the best chance. But the sugar in the urine continued to be passed in large amount, which appeared at once to negative the view that the glycosuria was trau-

matic in origin, and to render amputation hopeless. The later stages and the post-mortem condition were consistent with death from coma induced by the injury in a diabetic patient.

CASE 2.—A carman, æt. 24, pale but well nourished, attended as an out-patient on December 22nd, 1887. A small bubo had been opened in the left groin on December 3rd; a sinus now discharged thin, foul pus. The whole left leg and scrotum were swollen, red, and painful, in a condition of cutaneous erysipelas. There was some eczema and excoriation about the glans penis, and the urine contained a large amount of sugar. After admission, the inflammation in the leg rapidly subsided, and the suppurating sinus soon healed. The urine passed in twenty-four hours varied from 150 to 200 oz., having a sp. gr. of 1032. He was placed on codeia and a diet which excluded starch.

He became an out-patient on January 7th, 1888, with the amount of sugar much reduced.

There was no previous history of the diabetes, except that for some time he had been easily wearied and depressed. Four days before his death he attended as an out-patient, he expressed himself as feeling much better, he was passing much less urine and sugar. He was keeping up the strict diet and the codeia. Only on that day he had a dry parched tongue, with a thick fur. Two days afterwards he felt ill, became drowsy and wandering, gradually unconscious, and died comatose.

I could find no cause in this patient to have excited the diabetic coma, although, as there was no post-mortem, pneumonia cannot be excluded. When I first saw him with the inflamed leg and the suppurating sinus, and found the sugar in his urine, there appeared to be great danger of septicæmia or coma coming on. But in this case the coma did not come when such a likely exciting cause was present. After the patient had improved in general health, and the sugar had become less, whilst still under the same diet and treatment diabetic coma came on.

CASE 3.—A cook, æt. 35, was admitted on September 9th, 1887, with commencing gangrene of the right foot. She was stout and florid. She had had excessive thirst for the last ten years, and was treated for diabetes five years ago. The diabetes has continued, but without affecting her general nutrition. Her father, mother, and eight brothers and sisters have died of phthisis. She says that she suffered from hæmoptysis when young. No history of gout.

On August 20th, after a long walk, the right foot became very swollen and painful. A blister formed at the root of the third toe over an old corn. She poulticed the foot. It became more swollen and painful.

On examination, the right great toe was swollen, of a dusky red colour, and this dusky redness extended as far as the middle of the dorsum of the foot. There was a small ulcer covered by a black slough on the inner aspect of the great toe. The second and third toes were swollen, and pitted on pressure. Sensation was impaired on the dorsal and plantar surfaces of the great toe. The left foot was natural. The femoral, popliteal, and dorsalis pedis arteries of both feet were natural, but the posterior tibial arteries could not be felt in either leg. The urine contained much sugar.

She was placed on a diet of meat, gluten bread, green vegetables, and skim milk *ad libitum*, in addition to extract of opium, ½ gr. every four hours, and this was gradually increased to 3 gr. every six hours. Codeia was tried for a short time, but the quantity of sugar increased, and it was left off. The legs and feet were well wrapped up, and the gangrenous part kept dry with powdered zinc oxide iodoform.

She passed at first after admission 110 oz. of urine, containing 23 grains to the ounce of sugar. The urine diminished in quantity to 50—60 oz., containing 12 grains to the ounce of sugar, at which it became constant during the rest of her stay.

In the first few days the great toe became less swollen, and the dusky redness passed away. The ulcer, after nearly surrounding the toe, began to heal, and this was complete in two months.

After leaving the hospital I did not see her until February 27th, 1888. She had kept to her diet, but had left off the opium. She had allowed her right foot to become cold, and in consequence a small superficial gangrenous patch formed on the plantar surface of the great toe. She passed now again about two pints of urine, with a sp. gr. of 1034. The diabetes had not affected her general health.

It is a question how much it had affected the gangrenous tendencies. If the urine had not contained sugar the case would have served as a well-marked one of dry gangrene from blocking of the posterior tibial arteries. The gangrene undoubtedly looked inclined to spread on admission, but it quickly took a favorable turn. The opium, which generally acts well in senile gangrene, along with the diet, reduced the sugar in the urine to a certain point.

Postscript.—The inoculation of a rabbit with the micrococcus of pus (Staphylococcus aureus) in a solution of grape sugar causes an acute abscess, whereas the injection of either of the two separately has no such effect (Budwid, 'Centralblatt f. Bacteriologie v. Parasitenkunde,' II Jahrg., 1888, iv Bd., No. 19).

PURULENT OPHTHALMIA OF INFANTS.*

By GEORGE COWELL.

Ophthalmia neonatorum is the cause of one third of the blindness in this country, and, in fact, in Europe generally. It must also be admitted that in the vast majority of the cases, if not in all, it is a curable disease, and that therefore the vast amount of blindness which results could be avoided (1) if the people knew how dangerous to vision the disease was, and how essential to its arrest it was that valuable time should not be lost in obtaining proper medical advice and treatment; and (2) if medical men themselves universally recognised the futility of any temporising measures, and the necessity for attacking this disease at the earliest possible moment.

I shall never forget, years ago in the crowded theatre of University College Hospital, hearing Professor Wharton Jones, whom many of us will have been glad to see coming forward in the medical journals with something of his old vigour, after somewhat tragically enucleating with his gigantic scissors an eyeball that had been lost from this disease, stating to the assembled students that that lost eye was a disgrace to English surgery, because it had been destroyed by a disease which was completely curable by immediate and efficient treatment.

I need not detain you with any minute description of the disease. It is always recognised as an inflammation of the

* A paper read before the Harveian Society in 1885.

conjunctival membrane, showing itself three days after birth, and is almost always due to infection during birth from some abnormal discharge from the vagina. Of course the disease may occur at a later period, but the infection then is not directly from the vagina, but indirectly from a want of cleanliness in the nurse or mother of the child. After this period of incubation the conjunctiva becomes red, a rapidly increasing discharge escapes from between the lids, the lids and conjunctivæ become more and more swollen, and if the disease be not checked by appropriate treatment, the tension produced by the swelling and the pressure of the folds of chemosed conjunctiva will speedily produce ulceration or even complete destruction of the cornea. The limited ulcers of the cornea may be accompanied by iritis. If perforation of the cornea with escape of aqueous take place, the iris of the anterior capsule of the lens may be forced against the aperture in the cornea, and a prolapse, an anterior synechia, or a nodule of lymph uniting the cornea with the anterior capsule of the lens, or even a pyramidal cataract, may result and remain with the permanent corneal opacity, or the pupil may become completely closed. But most medical men are perhaps familiar with the various ways in which partial or complete blindness may result from this disease.

The immediate object of my paper is the practical one of discussing the prevention and cure of this sight-destroying disease. Since I undertook to bring this question before this Society the matter has been taken up by the Ophthalmological Society, who last March appointed a committee to investigate as far as possible the relative frequency of blindness from the disease in this country. The inquiries thus undertaken confirmed the fact that I stated at the outset of my paper, viz. that one third of the blindness which exists was due to this disease. The Committee made the following recommendations:

1. That the above disastrous result was due mainly to the ignorance of the public with regard to its dangerous character, and the consequent neglect to apply for timely medical aid, and that it was therefore desirable to instruct those in charge of new-born children by a card describing

the dangerous character and signs of the disease, and the necessity for immediate medical aid. This card it was recommended should be distributed through the medium of the Poor Law and Birth Registration organisations of the United Kingdom.

2. That the advocacy and aid of the medical press be solicited in drawing general attention to this important subject, and especially the attention of authors of text-books on midwifery, and of the lecturers on the same subject for students and midwives, and of the various institutions which train, and charitable institutions which employ, midwives.

3. That a copy of the first resolution be sent to certain Government officials, and that they be urged to promote its objects.

The result of this appeal to the Presidents of the Poor Law Boards and other officials has not been successful. There would seem to be great practical difficulties relating both to time and cost which would apparently render the plan proposed impracticable. The Committee, however, still have the matter in their hands.

It may be that the whole burthen of combating the difficulties in diminishing the extent of this disease and its disastrous effects must fall upon the members of our own profession. Whether this is so or not it certainly behoves us individually, in our practice, in our charitable institutions, in our societies, in our writings, to do all we can to extend widely a knowledge of this disease and of its dangers. Our positive duty in the matter is in no wise diminished by the fact that the greater part of the blindness from this cause is on account of the neglect to seek surgical advice and treatment until it is too late. It is very difficult to educate the public in a matter of this kind, but much may be done through the dispensaries, the clubs, the lying-in institutions, and even through persons who are in the habit of visiting the homes of the poor. If we, as medical men, would interest ourselves in this matter, and seize every opportunity of extending this knowledge, I am sure that our action would not be thrown away.

2. Our second duty would seem to be to take measures to prevent the occurrence of this disease in our own prac-

tice. In these days of antiseptic surgery we possess a means of achieving this. The vaginal discharge which is capable of producing purulent conjunctivitis varies from the true gonorrhœal discharge, generally more or less modified by time, to a slight leucorrhœal discharge, which, however, must contain certain specific bacteria. Upon the character of the discharge between these limits will depend the virulence or mildness of the conjunctival attack, it, in its turn, varying from the acute and rapidly destructive gonorrhœal form to a form which is mild and easily cured. Why should not these more or less dangerous vaginal discharges be carefully washed away by injections of carbolised water or diluted Condy's fluid? Why should not this be a routine practice in every lying-in case? Why should not the oil or vaseline or pomade that is used by the accoucheur contain always some antiseptic material such as carbolic acid in small quantity, or terebene or other reputed germicide? If there are difficulties in adopting injections in all cases, they might be used when some vaginal discharge is known to exist or is suspected. It is presumption, perhaps, on my part to touch upon the mysteries of the accoucheur, but I believe the idea is not a new one. I certainly believe that the destructive disease of which I am speaking might be very much diminished if the prejudice, for I do not think that there can be any real practical difficulties, against such a practice could be overcome. Of course similar care to antiseptically cleanse the hands of the nurse before touching the eyes of young babies would be equally necessary in order to guard against cases where infection is thus carried.

3. Our next duty is to take immediate steps to combat the disease when it occurs. It is important that no time should be lost. The indications for treatment are: 1. To remove the discharge almost as rapidly as it is formed, and to allay the inflammatory process by stimulating the dilated conjunctival vessels to contract. 2. To relieve tension when swelling of the conjunctiva or lids has occurred. 3. To watch for and treat the complications that arise.

It rarely happens in this disease, when the infection comes from the vagina, that one eye only is affected. In such a case our first care will be of course to guard the

sound eye from the disease. This may best be done by placing a pad of absorbent wool over it and fastening it down with collodion and a ring of adhesive plaster. Generally both eyes are affected, and the treatment may be commenced at once. The eyes should be cleansed from the discharge every quarter of an hour. It should be done by the surgeon himself once or, if possible, twice in the twenty-four hours, and the eyes should then be thoroughly examined. The best position in which the lids may be well separated—and the eyes can seldom be thoroughly explored in any other—is for the surgeon to sit down and take the child's head between his knees, well protected with towels. He can then easily keep the head still for as long as is necessary, not only for examination, but for any required application or treatment. No sponge should ever be used. The everted lids may be cleansed with pieces of cotton-wool dipped in Condy or carbolic lotion. Great care should be taken to clean out the *cul-de-sac* under the upper lid. The nurse or mother (and one person should give undivided attention to the case for a few days) may wash the discharge away in a different manner. The lids being slightly separated by two fingers, the lotion should be allowed to fall in a stream into the eye from a large piece of cotton-wool well saturated with the antiseptic lotion, held half a yard above. This should be repeated two or three times with each eye. With a little adroitness the stream of lotion may be made by its own weight to force out all the conjunctival discharge, and the process is easier and safer than using a syringe or irrigating tube. This should be done every quarter of an hour, except when the child is asleep, when the intervals may be longer. It is useful, too, to place a small drop of a solution of sulphate of atropine in each eye on alternate days. In the more acute cases the surgeon should daily, in addition to cleansing the conjunctiva thoroughly, paint its surface with a solution of from four to six grains of nitrate of silver to the ounce of distilled water, the lotion being used afterwards to wash away the free solution. In the milder forms it will be sufficient to use the nitrate of silver solution twice or thrice a week if the careful cleansing of the conjunctiva is carried out every quarter of an hour. I

believe the essential point of successful treatment is this frequent cleansing during the first week of the attack. At the end of this time the discharge will be found to be diminishing, and then the frequency of the ablutions may be reduced to every half hour and then to every hour. This frequent ablution with a weak antiseptic lotion is often of itself sufficient to prevent the considerable swelling of the conjunctiva which is so dangerous to the integrity of the cornea. When the discharge is profuse, the nitrate of silver paintings are more especially indicated, and a little alum or boric acid may be added to the antiseptic lotion. When swelling of the conjunctiva occurs, scarification of the palpebral conjunctiva should be resorted to at once. The scarifying knife should not have a sharp point like a lancet or scalpel, but be the rounded end of a blade, with a sharp cutting edge. They can be obtained specially constructed for the purpose. The cuts should be made parallel to the margins of the lids. If there is a chemosed fold of conjunctiva overlapping the cornea it should be scarified in the same way, but the cuts should then be radiating from the margin of the cornea. The lids should next be thoroughly cleansed, and closed with a thin pad of lint dipped in the cold carbolised lotion.

It would occupy too much time and space were I to attempt to discuss the treatment of the many complications which may arise in these cases. And it would also be beyond my object, which has been to call attention to the great amount of blindness produced by this disease, and to ask the co-operation of the members of our profession in the great and important work of doing all in their power to diminish the public ignorance, which is the chief cause of the propagation of a disease so often attended with lamentable results, and also in promoting the adoption of means of prevention, and the prosecution of an immediate and energetic treatment.

VITAL DIAGNOSIS.

By Dr. ALLCHIN.

It is too often assumed that the diagnosis of a case of disease is completed with the performance of the systematic exploration which constitutes what is known as the physical examination. Of the limits and scope of that procedure I have elsewhere written;* it is my present purpose to draw attention to a phase of the inquiry which is complementary to physical investigation, and, so far as possible, indicate the method of its pursuance and its clinical value.

By the orderly employment of the trained senses are ascertained the departures from a known or postulated standard of structure and function which the body may present, and to the sum total of abnormalities thus detected is assigned a name—that of the disease. These signs and symptoms are essentially (and with few exceptions of a subjective character) of a physico-chemical nature, and are discoverable by physical observations and measurements or chemical analysis. Such are alterations in size, shape, position, tenacity, firmness, rigidity, elasticity, smoothness, colour, temperature, qualities of sounds, odour, electrical condition, range and extent of movement of the different organs and parts of the body, together with the chemical investigation of the various excreta and morbid products, and the microscopical examination of the same. The physical examination of a patient consists in the ascertainment

* 'Westminster Hospital Reports,' vol. iii, 1887.

of these facts by means of the methodical application of the senses, assisted by such aids as stethoscope, thermometer, tape measure, microscope, and the like. It cannot be too clearly stated that the visible, palpable, and audible signs thus obtained are but indications of the physical condition of the various organs from which the nature of the disease is inferred. Did a complete diagnosis simply consist in the recognition of these facts and giving the malady a name, there would be little or nothing more to be done than is effected by physical examination. But there is, or should be, included in the making of a complete diagnosis, if such phrase is meant to comprise a thorough knowledge of the individual case in all its aspects, other considerations than those which result from a mechanical process of investigation, however carefully and accurately it may be performed, and the final effort of judgment upon the evidence obtained is based not only upon the sensible departures from integrity of structure and action which may be observed, but also upon another group of data which require for their recognition faculties of another order and a plan of inquiry, which in our present state of knowledge is far from being very clearly defined.

In contrast to the method known as "physical diagnosis," the term "vital diagnosis" has been proposed* for this additional inquiry, concerning itself as it does with those circumstances which, not being physical or chemical in character, do not come within the range of physico-chemical methods, but belong rather to the "vitality" of the individual. Before proceeding to indicate more fully the range and manner of the investigation, it is well to note that these two factors of a perfect diagnosis differ widely from one another in several points. Especially do they differ in their completeness of performance; the methods of physical examination have become so elaborate that absolute precision at least promises to be attained, and when deficiencies do occur they are to be attributed as much to lack of skill on the part of the observer as to failure in the nature of the

* For this excellently expressive term we are, I believe, indebted to Sir Wm. Gull. At least, I have no knowledge of its use previous to his address to the Clinical Society in 1872, wherein it occurs.

method itself. It is worth remembering also that this art is practically the creation of the past half century, and to a great extent of even half that period; previous observation could claim but little approach to accuracy either in plan or attainment. Far different is it with those points with which vital diagnosis deals; connected as they are with those subjects which are in their very nature uncertain, and, from our deficient knowledge of them, necessarily pursued in a manner which allows but little exactness, the influence of the personality of the investigator becomes an important feature to be considered, since the rigid methods of observation are almost entirely inapplicable. Nevertheless, it was in attention to those circumstances which are included within the scope of vital diagnosis, such as the constitution and temperament of the patient, the nature and conditions of the surroundings, and to a less degree the influence exerted by age and sex, that most of the knowledge of a case of disease formerly existed. The splendid results more recently obtained by the precise methods of physical diagnosis have thrust into the shade, or at least hindered the development of this accessory yet very important branch of the subject, with, I think, some disadvantages to the progress of clinical observation, especially in the direction of prognosis.

The subject-matter included within the range of vital diagnosis, as contributing to a thorough knowledge of any given case in respect to its cause, course, and results, rather than to the exact condition of any of the organs or functions at a given time, would of necessity deal first with the question of "vitality," what is meant by it, and how it may be investigated and recorded, what in short is the life-value of the individual as considered in respect to the defects of bodily structure which the physical examination has disclosed. Were the animal body simply a machine composed of intricately arranged parts, the perfect working of which depends on their structural integrity and mutual adaptation, then the detection of a flaw in such structure would be equivalent to the recognition of the disease, and the physical examination by which such flaws were discovered would be the whole art of diagnosis. But the animal body is not such a machine composed of independent parts associated

together for a common purpose; there are numerous influencing circumstances, partly external, but for the most part intrinsic and extremely difficult of definition, which confer on the living animal characteristics which have little or no analogy in pieces of artificially constructed mechanism.

The body, in addition to the physico-chemical properties which it exhibits in common with inert matter, also manifests certain phenomena in virtue of which it is styled "living." The character and conditions of such phenomena are to a certain extent capable of investigation by methods comparable to those pursued in ordinary chemico-physical inquiry, and are similar if not identical with the results obtained by artificial processes; such, for instance, as many of the changes associated with digestion, respiration, and secretion, together with the electrical properties of nerve and muscle. Formerly regarded as peculiar to living matter and not amenable to laboratory methods, increased research has shown that no such distinction exists, for many of the vital processes are now closely imitated quite independently of living structure, and there is every reason to expect that the limits of "the inimitable chemistry of nature" will still further be reduced. There remain, however, some essential properties of the living body which are not, or at least with our present conceptions, to be explained in conformity with known physical laws, and are exhibitions of energy not correlated to or convertible with known physical forces; it is with such phenomena that vital diagnosis is specially concerned.

The several aspects in which vitality is displayed are but the expressions on the part of the living protoplasm of the body of certain inherent tendencies which it possesses. The possession of such capabilities is an "ultimate fact" of its nature, and as inseparable from it as the property of "weight" is from all matter; and though we may come to know with exactness the conditions under which they become evident and the laws of their action, they must nevertheless remain as essentially inexplicable as are our notions of matter and force, gravity and motion. Since all living matter exhibits these properties, though in a varying degree, and such matter is descended from pre-existing living matter, it is convenient to regard these tendencies as heredi-

tary. As such they are liable to certain differences in manifestation, determined by age and sex, which are peculiarly attributes of the individual, and to a much greater extent by variations in the condition of the environment. Here it will be observed are the two main features of evolution, heredity and the influence of the surroundings, to which are attributable the differences between individuals; and my contention now is that just as these features are recognised when dealing with the individual in his normal existence, so are they to be considered in the investigation of disease, and to be made the basis of the inquiry into the patient's vitality. I have proposed to call these characteristics of living matter tendencies and capabilities rather than properties, since such terms appear to me better to express the fact that they not infrequently require for their manifestation some exciting stimulus, whether that be from within or without the body, and are not of necessity self-evident in the absence of such excitants.

These hereditary tendencies of protoplasm may be considered to be (i) irritability as it appears in the activity of the neuro-muscular and secreting tissues, (ii) the capability of reproduction, and thereby the propagation of living matter possessed of the same characters as are held by the parent substance, (iii) the ability to maintain its own nutrition, (iv) its adaptability within certain limits to altered conditions of the environment, (v) the tendency to death. It is not necessary to dwell here on the details of these characteristics, which include the whole activities of living bodies, but it may be convenient to note that although all protoplasm is intrinsically possessed of these capabilities, they yet depend for their exhibition in no slight degree upon the nature of the surroundings. Thus irritability is called forth by external stimuli; the power of self-nutrition is obviously related to the adequate supply of suitable food; certain conditions of heat, light, atmosphere, &c., are absolutely needful for the existence of life, though these conditions are most wide in their limits. Within a certain range of variation living matter adapts itself and pursues a normal course, but beyond such limits, or with a less capable adaptive power, an abnormal living ensues, and this is what we

call disease. It would appear, therefore, that the external surroundings of the organism produce this effect, whether for good or ill, by the influence they exert upon the intrinsic capabilities of the tissues; such surroundings are mainly comprised in the factors of climate, the character of the occupation, and the nature of the ingesta. The previous illnesses from which a patient may have suffered may also affect subsequent states of health, whether by predisposing to recurrence of the same malady or to other diseases, or by qualifying later-acquired affections, as is notably the case in the influence established by intermittent fever, or still more rarely by exercising a protective influence.

Starting then with the living protoplasm endowed with the capabilities I have mentioned and subjected to the intrinsic influences I have indicated, we recognise that so long as these mutually adapt themselves we have presented the phenomena of healthy life, but should the hereditary tendencies be intrinsically perverted or deficient, or the surroundings unsatisfactory, then we have the evidence of disease appearing in the living of the individual. Regarding the subject from this point of view it will, I think, be apparent that the vast number of different morbid conditions, which we are accustomed to consider as being special diseases, and to which we assign special names, are fundamentally referable to perversions of one or more of these inherent or acquired tendencies whether they be hereditarily abnormal or have become so by an untoward environment; and surely such is a far more philosophic method of viewing the ultimate nature and causation of disease than the efforts at over-specialisation which are so frequently made. Among the most intricate problems of pathology is the attempt to define when disease begins and health ends. But if we consider that both these terms indicate correlative phases of life, due to the interaction of the hereditary capabilities of a certain specialised form of matter possessing a most complicated chemical structure, with the conditions surrounding the individual, it will be apparent that no sharp line can be drawn between health and disease, and that the former is compatible with a wide range of functional manifestation dependent on an equally wide range of such capabilities or

surroundings. Or in other words, that there is no fixed standard either of the essential properties of protoplasm or of the environment, and that healthy life is the manifestation of their mutual working. What the province of etiology has to define is the conditions of such interaction and the relative share which each group of influences takes in the result, rather than in seeking to limit the actual range of each individual tendency or external agent.

Turning now to the practical bearing of these considerations, it will follow that for the full and complete knowledge of a case of disease, there is on the one hand the actual condition of the bodily organs as ascertained by physical examination, and on the other the investigation of the following questions, which comprise what I have called the vital diagnosis. These are: (i) The initial quality of the tissues affected as regards the character of their intrinsic and hereditary tendencies; (ii) the nature and mode of working of the cause or causes of the disease in question; (iii) the course and termination of the morbid state thereby produced.

First, the vital capabilities of the tissues, or rather the character and quality of such capabilities. These are, as I have already pointed out, protoplasmic irritability (nervous, muscular, and glandular), capacity for self-nutrition, power of reproduction, adaptive capacity and proneness to death. A phrase which is often on our lips when dealing with disease is the "person's constitution," and it will be well to seek what meaning should be attached to such an expression. Formerly, when physical examination as we now understand it was almost or quite unknown, much attention was paid to a patient's constitution, both as regards its detection and the influence it might have on treatment. At the present day this subject is very considerably neglected, except perhaps in marked cases, and this partly from the difficulty of the inquiry, and partly from the greater attractions offered by the more exact results which follow on physical examination. Not a few of the vague but valuable generalities which are included in what is known as "experience" pertain to an insight into the constitution of the patient. To me the term appears to be most fittingly and conve-

niently applied to indicate the sum of those tendencies which the tissues of an individual possess. And when the inherent ability of the neuro-muscular and glandular systems to respond to stimuli (internal or external) is such as to produce those functional manifestations which come within the arbitrarily assumed limits of health; when the power of the tissues to assimilate to their own substances suitable food with the result of maintaining their structural integrity; when the propagation of the tissue elements is sufficient to accomplish normal growth and sustain the mature structure; when the ability on the part of the entire organism and its component parts to adapt themselves to the environment, and resist up to a certain degree variations of the same; and lastly, when the tendency to death is not prematurely asserted, then do we have what I conceive to be a healthy constitution, whilst failure on the part of any one or more of these tissue potentialities, however such failure may be brought about, whether by hereditary transmission or by acquired imperfection, determines the various forms of unhealthy constitution (diatheses, cachexiæ). It may be urged that this is no explanation; possibly not, but it claims to be expressing certain facts of pathology in terms which are in harmony with general biological knowledge, and ultimate facts are to be accepted and cannot be explained. Those minute and often indescribable differences among individuals who nevertheless may all be healthy, are referable to exceedingly fine variations in which these tendencies on the part of their tissues are displayed; other variations as fine occur when the tendencies are perverted, and hence we no more meet with two cases of disease exactly alike than we do with two absolutely identical healthy persons. The modifications of structure which necessarily underlie these excessively fine functional differences are beyond the range of detection by the microscope, and must be assumed to lie in the remote chemical composition and molecular construction of the tissues. But although the ultimate anatomical substrata of these various modes of vitality are at present incapable of accurate definition, it appears to me of decided advantage to recognise the existence of these differences, and in any given case to

attempt the analysis of the morbid phenomena with the view of ascertaining as far as possible which special property of the protoplasmic tissue is primarily or mainly at fault. For purposes of description it is necessary to speak of thesy capabilities separately, but it is of course obvious that thee are most intimately associated in their manifestation, and as correlated properties of a highly specialised form of matter, the perversion of one is quickly followed by evidences of failure on the part of the others; thus, should from any cause the tissues of an organ fall short in the power of sustaining its nutrition (of converting, that is to say, food into its own substance to repair the molecular rearrangement which has accompanied the exhibition of energy, and of properly throwing off the products of waste), such other properties as cell multiplication or protoplasmic irritability will certainly suffer in their performance.

It manifestly widens our conceptions of the nature of any given case of disease if we are able to look behind the signs and symptoms, and form some coherent notion of the actual morbid process which is going on. Thus, for instance, numerous perversions of the neuro-muscular system, or even the so-called nervous temperament or neurotic diathesis find, I think, some explanation by regarding them as expressions of over-excitability, or at least undue irritability of the fundamental protoplasm of the nervous or muscular systems. The varieties of degeneration with which the microscope has made us familiar, and the conditions of atrophy and hypertrophy, are the appreciable results of alterations in the nutritive capacity of the tissues concerned, whether these alterations be due to failure in their food supply, or to perversion of the intrinsic capability to make use of the food when supplied. Modifications of the power of tissue multiplication are of frequent occurrence; the numerous forms of new growths, inflammatory or otherwise, may with advantage be studied from this point of view, if only to recognise some thread of uniformity among the multitudinous morbid-tissue forms which are met with. The healing of structural lesions, which we look for in the course of disease, and to promote which much of our treatment is directed, is but another term for one phase of the innate form of propagation

pursued by the tissue elements. Most interesting is the study of the departures from the normal type of tissue, which take place under conditions mostly unknown, with the result of producing new material, which is frequently characterised by a reversion towards the embryonic type, or on other occasions gives rise to completely heterologous forms, and further to watch the progress of such neoplasms, whether ultimately towards a complete restoration or to a permanent abnormality, whilst the associated clinical characters of innocence or malignancy are not to be lost sight of. It is perhaps in connection with the adaptative power of the tissues that we find the most frequent opportunities for attempting a vital diagnosis, since it presents itself in several aspects. The great variety that is met with in the incidence of disease affords an illustration of the existence of this capacity. For instance, how frequently is it that of several individuals exposed to the same unsatisfactory surroundings, some persistently remain unaffected, whilst others as frequently succumb, or how the same individual may for a time be subjected with impunity to such mal-hygienic states as experience shows will produce disease, and yet on some one occasion will fall a victim. The notorious liability of some families to suffer from the acute specific diseases, and of others to escape, or the exceeding frequency of catarrh in some individuals, are all circumstances that find their explanation in modifications of the inherent and essential power of the protoplasmic elements to adapt themselves to extraneous influences. And in the same way is probably to be explained the variety in disease which may follow on the exposure of several individuals to the same evil cause. In such cases, however, it is rather a variety in the system affected than actual differences in the morbid process. All forms of inflammation may succeed that complex irritant known as a chill, the resulting symptoms and course being obviously dependent on the organ or organs mainly affected thereby. The difference in the system attacked is the expression of the failure of that system to adjust itself completely to the abnormal influence of the chill, whether that failure be due to an hereditary imperfection in the part concerned, or to an acquired and perhaps temporary flaw in its ultimate

structure. Most valuable would it be did we possess any data by which to recognise the point of breaking strain, so to say, on the part of the tissues, the exact limit of their adaptability and resistance to morbid influences. The point can, from the nature of the case, never be a fixed one, since the factors concerned, viz. the hereditary predispositions and external agencies are ever varying; but when they fail to harmonise then is the point of rupture. It is not, however, only in connection with the causation of disease that we have to reckon with this adaptive capacity of the tissues, it makes itself felt in the progress of the malady, and is one of the elements that determine the final result, recovery or death. So intimately associated are the various systems and organs of which the bodies of the higher living being are constructed, and so closely blended in their activities, that the disturbance of one system quickly affects the other, so quickly may be as to render it impossible to say with certainty which was primarily at fault. Illustrations of this fact will suggest themselves at once, and the most superficial consideration will show that the different organs of the body are mutually factors of the environment to each other, and should one system become diseased the question at once arises, what is the limit of adaptability of the remainder? How long, in short, will they continue in satisfactory activity in their altered circumstances? To some extent no doubt they must of necessity suffer; but that may not be to such extent as to give rise to appreciable symptoms; but on the other hand their capability of adjustment may be overstepped, and we are then brought face to face with what in common phraseology are regarded as the complications of the primary disease. That the tissues of the body are only able for a limited period to sustain that condition of chemical composition and molecular constitution which results in the manifestation of living energy, or in other words that the tissues possess from the moment of their formation a tendency to death, is notorious, and difficult as it may be to form any notion of the exact nature of this property of protoplasm, it is none the less a circumstance which must be considered in a complete comprehension of any case of disease. In a broad, general way we recognise it when we calculate upon the

greater probability of an aged person succumbing to any malady than a younger one; and it is the fundamental principle at the basis of life insurance. We are familiar with certain gross chemical and structural changes in the tissue which supervene when maturity is passed, and we associate with such changes certain deteriorations in functional capacity, which gradually become more and more marked as age advances. Occasionally we meet with these changes much earlier in life when the senile characteristics are anticipated. What therefore are the normal features of one period of life are abnormal if occurring prematurely, and to a certain extent there is a normal for every age. Most of these appearances, however, we can ascertain by means of physical examination, such as the wrinkled inelastic skin, the rigid vessels, and the feeble pulse. But behind such obvious phenomena there is one phase of the vitality of the tissues, which after maturity has been established and maintained for a period of some years, manifests itself in a slow progressing degradation of structure and function, and it is difficult to resist the conclusion that, should some intercurrent disease occur, it would intensify this natural tendency, or that this in turn would confer a more serious aspect on the course of the malady. May it not be that what we speak of as malignancy is but an exaggeration of this death tendency, which we have no means of measuring or recognising, except by its results?

How far vital diagnosis may be considered to be concerned with the causation of disease will much depend upon how far the cause is regarded as an essential part of the morbid state. The actual production of disease hardly falls within my present subject, except so far as I have referred to it in connection with the adaptive power of the tissues, which is a factor in determining the existence of an illness probably as effective as the morbid agent itself. It is existing disease, and not the circumstances of its production, with which diagnosis deals. Those who look upon the cause and the effects (signs and symptoms) as integral parts of the disease, will of necessity seek to estimate the nature and value of the former as a phenomenon of the malady, and no diagnosis would be complete without reference to it. Others,

on the contrary, and with them I should agree, regard the disease as the result of the cause, from which it is a separate subject of inquiry. I have already pointed out that the external causes of disease act by determining abnormal manifestations of the fundamental protoplasmic capabilities, whilst the intrinsic causes of disease are hereditary perversions of those same tendencies, and have been considered as factors of the patient's constitution. In that sense no doubt the cause does become an essential part of the disease. The cause also demands attention after it may have ceased to act, in respect to the determination of those individual and minor differences between cases of what may be regarded as the same malady so far as physical diagnosis declares, such differences, that is to say, as prevent absolute identity between a number similarly affected, just as absolute identity among a series of so-called healthy does not exist.

The third aspect of a patient's case included within the vital diagnosis is its course and termination. To forecast these is to make a prognosis. When disease has become established, that is to say when the ultimate structure of the tissues has been so perverted as to determine an abnormal functional activity, the question will arise whether such structural perversion will recover itself, or whether it will become permanent or extend, and if so, to what degree. The natural history, so to say, of most maladies is now pretty well known; the records of numberless cases have enabled us to anticipate the probable course and duration of any particular illness, but the principles which this knowledge has provided for our guidance require considerable modification in their application, due to the age and condition of the patient. The different degrees of mildness or severity of any disease are expressions of the extent to which the inherent properties of the living matter are perverted, whether that be from their undue susceptibility or the potency of the disturbing cause or both, and any estimate we may form of the gravity of a case is in reality based upon a half-conceived notion of these interactions.

It will be apparent that no one of these circumstances which I have referred to (with the partial exception of the inherent protoplasmic irritability) can be investigated by the methods

pursued in making a physical diagnosis. By no exercise of our senses can we, with our present knowledge, estimate the adaptive power of the tissues or the reproductive capability of the living cells, yet it is very clear that in obtaining a complete knowledge of any case of disease, such conditions should be reckoned with. The subtle influences of age and sex are not to be detected or measured by our eyes or ears, yet their influence on the incidence and course of disease is well established. The conditions of weather, the character of employment, overwork, nervous, muscular, and glandular, the nature of the various ingesta, including those denominated poisons, are notoriously potent agents in determining the occurrence of disease or affecting its course when established; but it is not until the organs of the body become as the indirect result of their influence, altered in size, shape, and consistency that we can judge of their effects, whilst they, the causes of the change, are almost wholly beyond the reach of our means of physical estimation. It is these all-important determinants of the cause, course, and termination of disease which are outside the range of physical examination that vital diagnosis is concerned with. By what method then can they be taken into account? No doubt a dim notion of the questions at issue does occur to every observer, and each frames for himself in some unknown way an answer, but the usefulness of the proceeding, both to the inquirer himself and to those who might expect to benefit from his knowledge, is much diminished by the want of some orderly plan in the chaos of vagueness in which the subject is involved. Insensibly also we take into consideration the patient's vitality in adopting any method of treatment, and in modifying the same; and the extent to which this may be done accounts in part for the different success obtained by different practitioners. Moreover, the estimation of its value will certainly underlie all plans of general in contradistinction to local treatment. When the problems to be investigated are so obscure, and so far beyond the comprehension of our senses, much will depend upon the point of view from which they are considered, and it appears to me that for any advance to be made some broadly accepted mode of thought must be laid down, by which some coher-

ence may be given to the cloudy notions and half-formed ideas, which for lack of some connecting thread, are unavoidable.

No doubt experience, which in this case means the recognition of ill-defined intangible characters with sufficient frequency to regulate the opinion and enable the formation of a judgment, goes for very much, but until such experience can be formulated it must remain the personal property of the individual, and can be scarcely, if at all, imparted to others. The want also of a habit of systematic thought and of those wider conceptions of disease which an exclusive attention to detail tends to prevent, largely hinders the actual accumulation of positive information and widely contributes to much needless diversity of opinion. If asked what should be the basis of the common method to be adopted in considering these problems, I would say that however deficient and however provisional be the plan, it should conform to what are accepted as fundamental principles in the departments both of biology and of physiochemical investigation. On the one hand the properties or functions of living matter should be referred to the chemical composition and molecular constitution of the protoplasm, and on the other the manifestations of these properties are to be considered in the light of the laws of evolution. It is in uniformity with these assumptions that the foregoing suggestions are offered.

REPORTS OF SPECIAL DEPARTMENTS.

REPORT

OF THE

DEPARTMENT FOR DISEASES OF THE SKIN.

1887.

By Dr. T. COLCOTT FOX.

The number of cases coming under observation in the Skin Department of the Westminster Hospital in the course of the year 1887 and available for record was 769. I append, as usual, an alphabetical list:

Abscess of the scalp	2	Lichen pilaris	1
Acne and comedones of adolescents	17	„ planus	3
Alopecia areata	18	Lupus erythematosus	2
Bromidrosis	1	„ vulgaris	3
Comedones of childhood	1	Medicinal eruptions	2
„ of other kinds	3	Miscellaneous eruptions	2
Dermatitis	3	Molluscum contagiosum	2
Ecthyma	9	Morbilli	1
Eczema	167	Morphœa	2
Ephelis ab igne	1	Nails, disease of	1
Erysipelas faciei	1	Papillomata (nævus papillaris neuroticus)	2
Erythema multiforme	2	Pediculosis capitis	63
Folliculitis pustulosa of arms	1	„ vestimenti	29
Furunculus	3	„ pubis	1
Herpes facialis	2	Pernio	2
„ zoster	17	Pityriasis rosea	1
Ichthyosis	1	Pruritus	4
Impetigo contagiosa	89	Psoriasis	35
Keratosis pilaris	2	Rosacea	12
Leucoderma	1		

Scabies	52	Tinea tonsurans	50
Scarlatina	1	„ circinata	9
Seborrhœa (including Lichen circinatus)	19	„ tonsurans et circinata	5
Scrofuloderma	3	„ barbæ	2
Sycosis	1	Tinea versicolor	3
Sudamina	1	Ulcus molle	1
Syphilis—(*a*) acquired	54	„ rodens	2
(*b*) hereditary	11	„ (leg)	21
Tinea trichophytina	66	Urticaria	27
		Verruca	1

Acne and Comedones.—I have here considered these conditions under one heading for convenience, though they are not always necessarily associated. The cases met with fall into three groups, viz. the *common acne and comedones of adolescents*, the *comedones of childhood*, and *three other cases* which cannot be referred to either of these groups.

Seventeen cases of the *comedones and acne of adolescents* were seen, ten being males and seven males. In three there were comedones only, in the others comedones and acne papules and pustules, and in one large nodules. Nearly all the patients were noted as dyspeptic or constipated, most as anæmic, and several as having muddy, thick, greasy skins. The usual sites were affected, *i. e.* the face alone or chiefly, but in most either the shoulders or back or chest also. The ages were:—For males 15, 18, 19 (3), 20, 21, 22 (2), and 23 years, and for females 15, 17 (2), 19, 22, 23, and 27 years, but the affection had lasted some time in nearly all. Their first attendances were usually in the summer months.

The one example of the *comedones of childhood* occurred in the person of a boy (Arthur B—), æt. 14, who had a high square forehead, rather earthy complexion, and cuspidienne teeth. He had groups of comedones on the upper part of the forehead and in places just within the hair. The condition had been present for six months, but the comedones, according to his account, would come and go suddenly, a feature I have alluded to in my paper on the subject in the 'Lancet.'

The remaining three cases I am unable to classify, as I failed to attribute them to the usual cause of comedones and acne in older people, viz. plugging and irritation of the follicles by extraneous material such as tar products, and they could not well be called cases of acne cachecticorum. A

coach painter, æt. 52, had suffered for two years from comedones and one or two acne pustules round his neck and behind the ears, on his chest, back, and to a slight extent on the pubic region. James L—, æt. 36, had noticed comedones only for two years on his face and chest. Henry M—, æt. 32, a negro with the gleet, had all the scalp except the vertex studded with comedones, whilst the face and trunk were free. He said the condition had existed for nine months.

Alopecia.—Eighteen cases of alopecia areata are here tabulated, all characterised by the formation of circumscribed bald areas, mostly smooth but rarely a little scurfy, nearly always having some of the peculiar clubbed hairs present so characteristic of alopecia areata, and always invariably wasted from the very beginning. I am constantly in the habit of pointing out the atrophied condition of the smallest bald areas, but in what measure this is due to the loss of the hair it is not easy to determine. Itching or some disordered sensation may be present, especially in the early stages, or a feeling of numbness, bnt it is rare, I think, to be able to demonstrate any distinct loss of sensation. When scurf is present our suspicions of the presence of a parasite should be very keen, but alopecia areata may arise on a head that is already the seat of seborrhœa. It should always be borne in mind that alopecia and tinea tonsurans may be associated under two conditions: firstly, there is a form of ringworm which leads directly to the formation of wasted areas, over which the stumps have mostly or entirely fallen out; and secondly, true alopecia areata may arise on a head which is already the seat of ringworm, or *vice versâ*. As a rule, the history of the case, or the appearance of some of the stumps, or the presence of scurf, excites suspicion, and an attentive examination discloses the trichophyton fungus. I would call especial attention to the cases of Roland and Clare W—. The boy came on February 9th with two small wasted typical patches, and got rapidly well under treatment. On September 21st the mother came with several patches which had been developing for one month. I could not find any trace of a fungus in the mother.

Name.	Age.	Physique, hair.	No. of attack.	Family history.	Remarks.
Lily C.	3	—	1st. 2 mos.	No other cases	Health appears good.
Jane P.	8	Fair hair	1st. Recent	No others	Much itching.
Emily M.	9	Dark, spare	1st. 1 year	"	Health good.
Roland W.	11	Dark	1st. Recent	*See Clare W.*	Health good; apparently typical alop. areata.
Harry R.	11	Fair	"	No others	Health good.
William R.	11	Dark brown, spare	"	"	Obliged to leave school on account of prostrating headaches.
Elizabeth P.	13	Fair	"	"	Health good.
Eliza B.	14	Dark brown, very spare	1st. Some months	"	Anæmia; bad headaches.
Lucien A.	15	Black, spare	2nd. 1st attack 4 or 5 yrs. ago	"	New hair of a brown colour.
Chas. B.	17	Fair, spare	1st. Recent	"	Health good.
Henry M.	20	—	"	"	Has seborrhœa capitis; good health.
Mary M.	21	Dark brown, plump figure	1st. 1 year	"	Healthy; has seborrhœa capitis.
William M.	24	Dark	1st. 3 weeks	"	Young white hair growing on one patch.
Ethel K.	28	Brown, spare, excitable	1st. 4 or 5 months	Father was totally bald for a time with alopecia areata at 30 yrs. of age	Young white hair growing on some patches.
Clara S.	31	Dark	On and off for 8 years	No one else	Total except one patch on vertex; jaundice last summer.
William C.	34	Darkest brown	2nd. 1st 8 yrs. ago	His boy has tinea tonsurans	Delicate health.
Emily S.	42	—	1st. Recent	No others	Young hair growing white.
Clare W.	48	—	1st. 1 month	*Her son Roland*	Atrophied, circumscribed patches, rather itchy and scurfy, with typical clubbed hairs of alop. areata.

See further, Alopecia in association with Hereditary Syphilis.

DERMATITIS.—I have here arranged three cases, two of which I could not properly diagnose.

Charles S—, æt. 50, has suffered from an inflammation of the hands and fingers for two years, due to his occupation as a scourer of copper, &c., with strong coarse potash. The parts are eczematous and deeply fissured, hard, horny, thickened, and uniformly much swollen. The nails are variously affected from inflammation of the matrix and bed. Some are quite shed, others partially. Some have ceased to grow at the root, whilst others are absent over the distal half. The nail substance is much disfigured and distorted.

Henry L—, æt. 25, a tailor, came with a quantity of large discrete and confluent pustules all over his swollen hands. The condition had lasted some time. I could not get any clue to any local poisoning, and it was certainly not scabies. However, he got well under soothing applications and rest.

John M—, æt. 49, had a remarkable affection of two months' duration; it began in the left axilla. It was a very *symmetrical* disease, and was spread over the legs and arms in a more or less continuous erythematous, slightly scaly sheet, like an old eczema, but I could not find any eczematous lesions, and it extended over the shoulders and buttocks and hips by a raised border, just like eczema marginatum. A few similar patches were dotted about the trunk. I could not find any fungus, and I have unfortunately not kept the notes of the treatment.

LEUCODERMA.—A man suffering from chronic urticaria was also the subject of *Leucoderma*. He had been in India, but during the last two years, *i. e.* since his residence in England, he had noticed a well-marked leucoderma of the backs of the hands and forearms, and the neck. It only showed itself in summer, and disappeared in winter. I have several times in private practice noticed a similar state of things on the backs of the hands of persons who had sojourned a good deal in hot climates. *See also Syphilis.*

ECZEMA.—I recorded the attendance of 167 cases of eczema, forming about 21·75 per cent. of the total number of skin diseases seen, but only the notes of 156 cases are available. It is very necessary to remember that I exclude all cases of the discrete vesico-pustular eruption called impetigo. The ages and sex of the majority of the patients are given in the following Table:

Age.	Males.	Females.	Total.		
Under 1 year	10	4	14 or 9 per cent.	38 or 24·36 per cent.	49 or 31·4 per cent. of the eczema cases.
1— 2 years	5	4	9		
2— 3 „	2	5	7		
3— 4 „	1	4	5		
4— 5 „	1	2	3		
5—10 „	6	5	11		
10—20 „	9	14	23		
20—30 „	4	10	14		
30—40 „	6	9	15		
40—50 „	11	15	26		
50—60 „	6	7	13		
60—70 „	5	7	12		
70—80 „	3	1	4		
80—90 „	1	—	1		
	70	87	157		

Frequency at different ages.—The relatively great frequency of eczema in infancy, and especially in the first year of life, is again shown in the Table, though not to such a striking degree as in some other years. It is not uncommon to meet with eczema within the first few weeks of life.

Recurrences.—Eczema in a large number of cases is a notably recurrent disease, and in a good many cases coming under observation in later childhood and adult life a history of recurrence, and often from infancy, is to be obtained. It is a common thing for medical men to tell parents that, in infants suffering severely from eczema, the disease will not get well till the first dentition is completed, or then again until the permanent teeth are cut. The recurrences no doubt tend to get less frequent as the infancy passes into childhood, but dentition has little direct bearing on the causation and keeping up of the disease, and only an indirect influence through the nervous system or general disturbance of the health.

Heredity.—It is not uncommon to see two or three infants in a family successively attacked with eczema, and I have seen a family of six affected in their infancy. The influence of heredity is, however, difficult to establish, for in such cases I have almost invariably failed to trace the disease in the parents.

Influence of gout.—Only three patients, aged respectively 45 (♂), 65 (♀), and 73 (♂), suffered from true articular gout, and in these the eczema was quite a late complication of the gouty diathesis.

Asthma in eczema.—This is a very interesting subject, on which I shall have something to say on another occasion. Three adults were seen with this symptom; in both the eczema was very chronic, and a general catarrhal condition of the alimentary canal, if not of the respiratory tract, seemed to exist.

Distribution.—As a rule this is symmetrical. The eczema may be either *quite local* upon one region, such as the lips, on or behind the ears, on the palms, the shins, the head, the genitals, the bends of the elbows or the popliteal spaces, a limited portion of the face, or the interdigits; or of *somewhat wider distribution*, on several of these regions at the same time, over the face and neck, or that very frequent combination of sites, the face and forearms and hands, several of the great flexures, or the scrotum and thighs. Then we find cases of *patchy distribution all over the trunk and limbs*, and lastly these lead up to cases of *very widespread distribution*, in which the greater part or nearly the whole body is involved. Two of these universal cases were under observation in women, aged respectively 50 and 68 years. It is impossible to treat such cases with advantage in the out-patient room, but they do well in hospital, but only, as a rule, to relapse when they are discharged, and come again under the influence of the conditions under which they live.

One very peculiar case was seen in a man (Thomas M—) æt. 20. In him the papular and vesicular eczema constantly recurred over the face and cheeks, with the exact distribution of "butterfly lupus." Occasionally it occurred on the neck and wrists.

On the face acute attacks of eczema are very frequently diagnosed as erysipelas, and no doubt there is some superficial resemblance both in the aspect and the tendency to recurrence. Acute eczema is often associated with great serous exudation, especially about the eyelids and other parts of the face, and on the genitalia, and to a less extent on other parts. It does not, however, spread by a continuous border, and almost invariably close observation reveals the presence of the pin-head-sized lesions.

The nails in eczema.—The eruption may occur beneath the nails, and so cause pitting and thinning and disintegration of the nail, but the most common condition is where eczema,

extending down the finger, involves the skin at the root of the nail and so interferes with the growth of the latter. There results a thinning or deep grooving from partial cessation of growth, or a complete stoppage of the function.

William Mc N—, æt. 62, was under my care, in 1883, with a wide-spread attack of eczema during which he lost all the nails of his fingers. He attended again in 1887 with chronic eczema, and it was noticed that so severe had been the inflammation of the folds about the nails that the latter had never grown again.

Thomas V—, æt. 58, the subject of spasmodic asthma, came with eczema all round his forearms and finger, but the palms were free. He had never been entirely free from eczema since 1871, and had several times shed his nails. A drawing of the nails from this case will be found in Tilbury Fox's 'Atlas of Skin Diseases.' In August, 1887, several nails were separated at the root, but were not otherwise much altered. The tongue was very foul and deeply fissured.

Frederick J—, æt. 41, had eczema of the backs of the fingers, hands, and the forearm to the elbow, almost a little on the palms. He had a foul tongue, lithæmia, and had been subject to asthma for four or five years. The eczema dated probably from childhood, and certainly from adolescence. The nails were striated, dirty, opaque, ragged, with chipped borders, flaking off, very thick but not lifted up from the bed by epithelial accumulation as in psoriasis. Not separated at root.

Thomas W—, æt. 32, a baker, had eczema of the backs of the hands and fingers and the wrists. Suffered from eczema since three months of age and asthma for several years. Now skin thickened, infiltrated, and almost warty. The nails were pitted, dirty, and roughened.

Eczema, Varicose Veins, and Ulcers.—This well-known frequent combination was met with in nine cases, aged respectively 28, 40, 42, 45, 47, 55, 65, 68, and 72 years. The existence of varicose veins on the legs weakens the nutrition of the tissues, and determines the outbreak of eczema there, and the consequent scratching helps the onset of ulceration, which may occur quite independently of the eczema. To cure these obstinate cases of eczema the legs must be properly bandaged, or the best applications fail to exercise their proper influence.

Herpes Zoster.—The following cases attended, and the Table will disclose the various points of interest. Males 12, females 5.

Sex.	Age.	Date of evolution of eruption.	Regions involved.	Antecedent pain.	Remarks.
		1888.			
Fred. S.	9	Jan. 1	2nd lumbar, left	No antecedent pain, though now very tender	Patches evolved from behind forwards; mother positive the boy had a similar attack two years ago, but site uncertain; sister had psoriasis, another chorea and erythema nodosum.
James C.	7	Jan. 30	Right occipito-collaris (none in front of sterno-mastoid, three patches)	None, but painful now	Very pallid; cold and herpes labialis 14 days ago.
William D.	24	Feb. 19	Right great occipital	—	Cabman; subject to herpes labialis last 2 years.
George D.	34	Feb. 24	Left frontal	Yes, for two days on top of head, and very painful now; no anæsthesia	Cabman; eye waters, but otherwise unaffected; none on nose; parotid region and neck tender, and a vesicle (? herpes) outside angle of jaw.
William S.	18	Mar. 23	Last dorsal, right	None	—
Edward D.	18	Apr. 1	Left cervical (in front of sterno-mastoid)	,,	Indefinite history of a similar attack last year
Fanny A.	3	Apr. 17	Anterior crural right (front of thigh)	,,	Mother says the child had a similar attack last year.
Harriet N.	3 5/12	May 17	Cervicalis, right	,,	All the branches affected in a very perfect way; also a patch well up on the cheek.
Fred. M.	24	June 2	7th left intercostal	None, but now shooting and cutting pains	Had similar attack this time last year on right side reaching to pubes.
Rebecca C.	7	June 29	,,	None	Attending for chronic eczema, and taking Liq. Arsenicalis ♏iij since May 18th.
John C.	64	June 30	,,	Yes, for two days over cardiac region	Developed progressively from behind forwards.
James D.	53	Sept. 17	8th right intercostal	Yes, for ten days	Developed from behind forwards.
Ellen O.	31	Oct. 2	Left anterior crural (front of thigh	Ailing, with lassitude and pains in limbs, especially the *left*, for a week	Distinctly remembers having shingles round her side as a child.

Sex.	Age.	Date of evolution of eruption.	Regions involved.	Antecedent pain.	Remarks.
Joseph G.	13	Oct. 31	7th left intercostal	None, only tender or painful now if touched; no local smarting	Right herpes facialis also.
John S.	59	Nov. 19	Left great and small occipital	None	Caught a violent cold from exposure on night of 18th.
Richard H.	21	Nov. 30	8th left intercostal	None, notice attracted to it by the burning sensation attending the evolution of the patches	—
Margaret J.	49	—	Left herpes frontalis	—	See full notes below.

Margaret J—, æt. 49, a cook and housekeeper, has been an applicant at several hospitals. The history I obtained from her was as follows: Her father died of phthisis, her mother of consumption and dropsy, and all her brothers and sisters of phthisis. She was quite well up to three years ago with the exception of slight rheumatism in her hands. Three years ago she had "erysipelas." The attack was characterised by great swelling of the face, large blisters forming on the left side both on the forehead and scalp. The ankles were also slightly swollen. Since then the left side of the forehead and scalp have always been very painful. In February, 1887, patient had a second attack, the upper half of the left side of the face being much swollen. Characteristic scars are left. Since then she has suffered from distressing "painful anæsthesia" of the left side of the forehead and scalp nearly to the occipital protuberance. The left eye waters a good deal and the sight is imperfect, she feels as if the eye were bursting. No local applications, as might be expected, gave the slightest relief, nor did the constant current. Large doses of quinine also failed.

Impetigo contagiosa.—There is a constant supply of this affection, and the analysis of my cases fails to show any special prevalence of this affection in any particular period of the year. Eighty-nine cases were registered, but from many of these patients it was learnt that there were many others affected in the house, street, or locality. The numbers applying each month were: In January 6, February 7, March 1,

April 8, May 12, June 5, July 12, August 8, September 6, October 6, November 10, December 7. Like eczema, it is most prevalent within the first *five* years of life, no less than 64 per cent. of my cases belonging to this period, and 46·6 per cent. to the second, third, and fourth years of life. I only saw three adults with it, two of them middle aged. The origin of the eruption I have ascribed in my notes to pus-inoculation: (1) from the pustules set up in the scalp by pediculi, (2) from discharges by the nose, eyes, ears, &c., following measles and other disorders, (3) from the scratched pustules of vaccination and and varicella, (4) from discharges from festered excoriations, abrasions, and wounds. I have many times taken the temperature in these cases, but rarely find the slightest febrile disturbance. Children often get this eruption year after year.

I am much struck with the difficulty many senior students, and even practitioners, find in distinguishing impetigo contagiosa from pustular or crusted eczemas. The difficulty need only arise with regard to a localised patch of eczema and a confluent patch of impetigo contagiosa in such a position as the chin, scalp, or behind the ear. I append here a memorandum of some of the more important points, arranged in parallel columns.

Impetigo contagiosa.	*Pustular eczema.*
(1) Primarily a discrete, disseminated eruption of vesico-pustules, with comparatively scanty lesions.	(1) Almost invariably evolving in close aggregations of numerous lesions, and only occasionally limited to a single or one or two patches.
(2) Often localised and asymmetrical, and only accidentally symmetrical.	(2) Tendency to bilateral, or often symmetrical, development.
(3) Lesions pin-head-sized at first, and spreading peripherally to reach a far larger size than those seen in eczema, and often collapsing in the centre, whilst the periphery extends.	(3) Individual lesions pin-head-size, and not increasing materially in size, though the patches of aggregated pustules may extend by the development of fresh lesions at the periphery.
(4) Lesions longer lived than in eczema.	(4) Lesions very short lived and soon rupturing.
(5) Irritation less.	(5) Irritation greater.
(6) The "stuck-on" appearance of the scabs characteristic.	(6) A crusted patch only of eczema, resembles a confluent patch of I. contagiosa.

Impetigo contagiosa.	*Pustular eczema.*
(7) Multiformity of the eruption, *i. e.* vesico-pustules, pustules, bullæ, large ecthymatous pustules, and crusts seen in all stages of enlargement and progress in various parts.	(7) In a pustular case the lesions will be nearly all pustules of a pretty uniform size, though some papules and vesicles may be observed rapidly becoming crusted.
(8) Occasionally recurrent.	(8) Much more frequently recurrent, and history of eczema from infancy.
(9) The sites chiefly involved are the face and adjoining parts, and the scalp, with perhaps some ecthymatous pustules about the hands, fingers, buttocks, legs, and arms.	(9) Isolated patches may occur about the face or behind the ears. When the eruption is more widespread it can hardly be mistaken.
(10) The second, third, fourth, and fifth year are the ages when it most frequently occurs.	(10) Most frequently in the first year or eighteen months of life, and then frequency declines in childhood.
(11) Other children, or sometimes adults, in the same family, house, street, locality or school, frequently affected.	(11) Rarely more than one child affected.
(12) Traceable to inoculation from some source of pus-production such as indicated above.	(12) Patches of eczema are not due to pus-inoculation, although occasionally a nurse's arm, &c., may become inflamed from contact with the eczematous eruptions.

LICHEN PLANUS.—Only three cases were seen, and all in women, aged respectively 82, 49, and 43.

Name.	Age.	Site and health.	Duration.	Itching.	Result.
Mary J.	82	Typical papules inside of legs and thighs and on the calves. General health seems good	1 month. This is the 3rd attack in 20 years	Only under one knee	Under Liq. Arsenicalis and quinine and iron, and, locally, Ung. Acid. Pyrogallici, she was well in October, and only stains left.
Alice B.	49	Miliary, flat, shining, angular pustules on front of wrist and flexures of elbows, running into psoriasis-like patches on extensor aspect of elbows and knees. General health seems good	6 months. 1st attack	Very slight	Got well under arsenic.

Name.	Age.	Site and health.	Duration.	Itching.	Result.
Ellen C.	42	Flexor aspects of arms and wrists and down legs; none on elbows or knees, or in mouth. A violaceous, flat, angular, shining, smooth eruption, from pin-head upwards; many umbilicate. They run into psoriasis-like patches, especially on the legs	1 month. 1st attack	Itching more than she can bear at times. It starts when she gets warm in bed at night	Developed for some weeks, and then gradually disappeared under arsenic. Pyrogallic acid ointment did not suit it.

LUPUS ERYTHEMATOSUS.—The two cases here tabulated were treated by a number of local applications, at first of a soothing character, such as oleate of zinc, and afterwards by various stimulants and resolvents. I have made no lasting impression by these means. The cook is not a favorable subject, since her face is much exposed to the fire, and the patches constantly inflame.

Name.	Age.	Duration.	Site.	Health.	Family history.
Miss C., a cook	27	6 years, but there is a history of transitory erythematous patches of the face since the age of fifteen	Butterfly-shaped area over nose and cheeks. Behind both ears, and in meatus of left ear	Does not feel strong, and cannot walk far. Been under treatment for flexion of uterus. Suffered badly from chilblains on hands as a girl. Fairly healthy appearance	Mother's brother died, aged 22, of phthisis. Father's side said to be delicate. A sister of his died of phthisis, aged 40.
Joseph W., a carman	38	1 year. Says the patches come and go; which probably means the intensity of the red colour varies very much	Nose, and symmetrical patches on each cheek and in front of ear; also rims of ears. Burns and smarts	Healthy appearance	Family healthy.

LUPUS VULGARIS.—Three new cases only were observed. Two were treated by scraping and the subsequent application of a concentrated zinc chloride paste. The third tried Unna's

salicylic acid and creosote plaster, but, as I had not the strongest kind by me at the time, I finally resorted to the scraping.

Name.	Age.	Site.	Duration.	Health.	Family history.
Mrs. J.	31	One popliteal space	17 years	Unhealthy aspect with earthy anæmia; persistent amenorrhœa till lately	One uncle died of phthisis, aged 34.
Elizabeth S.	48	Face and neck	17 years	Fairly healthy aspect	No phthisis in family. Comes from Norfolk. Has suffered from ophthalmia. Had one child and one miscarriage 16 years ago; none since; now menorrhagia.
Fred. B.	15	Left cheek	7 years	Looks pallid and delicate	No phthisis in family.

MEDICINAL ERUPTIONS.—*See Herpes; also Psoriasis for two cases of Arsenical Pigmentation.* I am indebted to Dr. Charles Beevor, of the Hospital for Epilepsy and Paralysis, for sending me two marked cases of potassium bromide eruption.

Walter G—, æt. 6, had varicella fourteen days before Christmas, and the eruption had almost disappeared when the bromide which he was taking began to bring out lesions. He was sent to me on February 9th, as the eruption was then become much worse. The extensor aspects of legs were dotted with a number of discrete and confluent puriform flat bullæ with infiltrated bases, and some were covered with a dirty brownish crust. On the face were a few small pustules, and on the outside of each upper arm near the elbows were some clustered varicelliform and acneiform pustules.

Emily L—, æt. 3, an imbecile, and the first born alive after several stillbirths and miscarriages, had been taking Pot. Iodid. gr. j, Pot. Bromid. gr. v, bis die, for three weeks. The eruption first appeared just below the navel, where there exists an aggregation of pustules crusted over. There are discrete pustules on the cheeks, and on the external aspects of the arms, also some patches on the thighs and legs. The eruption is acneiform with more base and not varicelliform as in some cases. It is characteristic of these bromide eruptions that pustules tend to aggregate round a primary one, and a confluent patch with an infiltrated base and brownish crust forms with discrete pustules on the borders.

MOLLUSCUM CONTAGIOSUM VEL EPITHELIALE.—The conclusions arrived at by most modern investigators seem to be now generally accepted, and the peculiar new growths must be considered as epithelial tumours and not overgrowths of the sebaceous glands. Two cases came under observation.

Mark W. B—, æt. 6, the only child in a house, had typical growths on the eyelid borders, the bridge of the nose, about the mouth, and one on the hand, where there exist also a plane wart. The boy goes to school but no other cases are known.

Anne S—, æt. 33, had an extensive outbreak of typical lesions on the face. She states that her baby has one tumour, but the mother seems to have been the first affected, which is unusual.

Cases in adults are not uncommon where there are children affected, and then the tumours are localised, and their situation suggests contagion from nursing, &c. Occasionally adults, and even elderly people, get a copious and wide-spread outbreak without any clue to contagion, and then the tumours are less soft and more horny to the touch than in the child. Mr. Board, of Clifton, lately sent me a very interesting case in the person of a gentleman, aged 52, whose trunk was covered with typical little tumours. They had been forming for about six months. They were easily squeezed out. This gentleman was a great devotee of the Turkish Bath.

CIRCUMSCRIBED SCLERODERMA OR MORPHŒA.—Two cases came under observation.

Esther W—, æt. 16, a rather delicate-looking girl, had a broad band, varying from half to two thirds the width of the limb, reaching from the lower border of the gluteus maximus to the outer side of the foot and ankle, where the skin was rubbed and ulcerated. The skin was not uniformly involved. About the ankle the changes were marked and the skin firmly bound down; about the popliteal space and again on the back of the thigh, there were markedly sclerosed patches, but all these areas were connected by intervening thickened tissue, which in places was more easily felt than seen. There was no increased pigmentation. This condition had been coming on for four or five months, without pain, but accompanied by much itching. No history of rheumatism or definite ill-health in connection with the scleroderma.

William B—, æt. 52, a coffee-roaster, of healthy appearance, had a faint, smooth, glistening spot, the size of half-a-crown, on the left arm, just above the external condyle of the humerus. This appeared eighteen months previously, and was first of all very irritable and black, and then gradually became brown, and finally yellowish. A similar and symmetrical spot existed on the right arm. Down the shins were irregular longitudinal bands, and all over the abdomen, loins and buttocks were more or less rounded, palm-sized, confluent, glazed, pigmented patches. The prominent feature about this extensive case was *the remarkably superficial character of the changes.* They were in many places better felt than seen. He was slowly getting better. The patient attributes the disease to a great shock he received eight years previously, viz. seeing a man killed by an accident.

NAILS.—Leaving aside various pustular affections as scabies and impetigo contagiosa, the nails were found diseased in four classes of disorder, viz. psoriasis, eczema, dermatitis from scouring coppers with potash, and in one case idiopathically. I here give a short note of the last case, and the others will be found referred to under their respective sections. In psoriasis the nails get (1) pitted, (2) discoloured, irregular, and broken up from interference with their growth by the implication of the root by psoriasis, and (3) lifted up by papules developed beneath the nail, especially at the free borders. In eczema and dermatitis the growth at the root is interfered with, and sometimes ceases for a time, and the eruption may develop in the bed, but this is not very noticeable. In the idiopathic onychitis, sometimes erroneously called psoriasis, the bed seems chiefly affected.

Annie C—, æt. 13, the youngest girl of a healthy family, had all the nails of the hands affected, but not of the feet, for seven or eight months. They were thinned, discoloured, of a dirty brownish hue, fluted but not pitted, and raised up from their beds at the extremities by heaping up of epithelium. Distinct papules were made out on several fingers. She never had any general eruption, and I could not discover a fungus. She had been treated for syphilis and with Hydrarg. Oleat., 10 per cent., locally, but without effect. I tried a course of arsenic, but soon lost sight of her.

LINEAR PAPILLOMATA.—Two cases of interest are here recorded, the one congenital, the other probably partially so.

Ellen C—, æt. 8, came with two parallel, closely arranged, linear series of small warty growths distributed on the right side of the neck in front of the sterno-mastoid muscle. The two lines were close together. They existed at birth, and had grown but little since. Possibly this case belongs to the same category as that recorded and figured by Mr. Clutton in the 'Pathological Society's Transactions' for 1884 (vol. XXXV), and the lesions were developed in the line of the branchial fissures. See also a similar case figured by Dr. Stephen Mackenzie in the 'Illustrated Medical News,' 1888.

Emma H—, æt. 47, was kindly sent to me by Dr. Grigg, under whom she had been attending for a prolapsed uterus and other disorders. She presented a string of papules, simulating very closely those of lichen planus, down the inner border of the left forearm to the little finger. Here lines branched off down the middle of the dorsum of the index fingers, and the ring and middle fingers. There was also an irregular aggregation with some processes on the back of the hand. This condition had been present since childhood, and the patient showed me a photograph, taken at the age of thirteen years, in which the condition was distinctly visible. Down the centre of the back of the neck from the border of the hairy scalp was another string of papules a quarter of an inch broad, which had developed about nine months previously. Another row existed in the left axilla, a fourth on the cheek of the left buttock, and a fifth in the left pubic and groin regions. All these lesions were on the left side. The woman was anxious because the old lines were spreading and new ones appearing, *e.g.* on the neck and in the axilla. I took this case to the Dermatological Society, and she has been destroying the growths with salicylic acid. The papules were mostly flat and smooth, but on the hands they were rough and inclined to vegetate.

A good many cases of a similar nature have been recorded, especially in recent years, and I have notes of one or two cases seen at the Victoria Children's Hospital. A connection with the distribution of cutaneous nerves has been supposed to exist in some cases, and an intra-uterine trophic disturbance inferred. Probably the existence met with of localised or unilateral or more or less widespread linear bands of ichthyotic-looking growths belong to this category.

PITYRIASIS ROSEA.—The following case is an example of the *pityriasis circiné* of Horand, and such examples are now classed with the similar affection so well described by Duhring

as *pityriasis maculata et circinata.* The shorter name *pityriasis rosea* will include them both, though there are some clinical differences just as with many of the cases of psoriasis of childhood and adults.

Adelaide F—, æt. 11, presented a very itchy, erythematous, macular eruption, which began on the chest. The trunk was pretty thickly sown both back and front, and thence the eruption had spread slightly on to the neck and adjoining parts of the cheeks, scantily down the inside of the arms to the elbows, and was just invading the thighs. The eruption consisted of macules, the smallest morbilliform and character, and the largest reaching to the size of the little finger-nail. Only a limited number appeared to spread peripherally to any extent. None were ringed. Some were slightly raised. The colour was a rather dirty or faded pink, strongly reminding one of the early macular syphilide. Some were only roughened, whilst others had conspicuous adherent scales. There was a good deal of mottling and some pigmentation in the skin as if some of the eruption was faded. The duration, when I saw her, was four weeks. She was taken to the Dermatological Society.

The diagnosis in a case of this kind must be carefully made from an acquired macular syphilide and a macular erythema multiforme, and in scanty cases from a macular widespread tinea circinata. There were here no corroborative signs of syphilis in the glands, throat, or elsewhere; no fungus was to be detected, and the prolonged course and peculiar spread of the affection were characteristic of P. rosea and not of erythema multiforme.

Pruritus.—In addition to one case of pruritus from senile degeneration of the skin there were three others from different causes. I append the notes.

Robert E—, æt. 73, has suffered from gout on and off for thirty or forty years, and his fingers are much deformed. Complains of his urine scalding him in micturition. Is troubled with great itching of the backs of the hands and arms. The patient continued to attend for several months, and without much relief from citrates, carbonates, colchicum, and other remedies. In October he had a slight hemiplegic attack on his way to the hospital, and in November he was still complaining of the pruritus all over his body, especially on exposure to cold. Even his tongue itched.

Jane H—, æt. 49, was in the hospital six years ago with rheumatic fever. She has now (June) come for the relief of intense pruritus for which she can get no relief. This pruritus increased whilst she attended, and she complained of stabbing and tingling sensations rather than itching. They extended down the mouth and throat. She got thin and suffered from lithiasis. There were a few signs of an eruption from scratching, and curiously enough the feet desquamated. Two months after her first application she developed icterus, and I sent her in. She was much relieved by soda baths and soothing unguents, but in November the icterus continued, and the itching, on her leaving the hospital, soon returned over the whole body, and in throat, tongue, and eyes. The stabbing makes her jump. The soles of the feet desquamated five times. The skin of the body was natural except for some signs of scratching and an icteric tint.

Alice L—, æt. 36, a pale, nervous-looking woman, applied for relief for most distressing irritation of the external genitals. There was a little eczematous eruption on one thigh near the groin, but that appeared to be only secondary. She had been to many hospitals and medical men, and the only thing that gave her relief was the application of cloths wetted with cold water. I am afraid I could not claim much success with this distressing case, though I tried many remedies. The womb was healthy, there was no discharge, no piles, no worms, and the urine and urinary organs were natural.

Psoriasis.—I have thirty-five new cases of Psoriasis to record, the seventeen females being aged 9, 13 (3), 14, 15, 16, 18 (2), 19 (2), 28, 33, 37, 39, 40, and 45 years; and the eighteen males, 4, 10, 12, 15, 17, 18, 19, 20, 22, 25, 28, 31, 32, 33, 34, 35, 40, and 47 years. I ascertained as closely as possible when the disease began to show itself first, and the following table sets this forth:

Year.	Males.	Females.
1st	—	1 case as a child.
2nd	—	
3rd	—	
4th	1	...

5th	...	1	...	2
5th to 10th	...	2	...	1
10th to 20th	...	6	...	7
20th to 30th	...	4	...	2
30th to 35th	...	4	...	4
		18		17

I obtained some evidence of *heredity* in *nine* of the cases. Three females had respectively their mother, their mother and mother's brother, and their paternal grandmother (?) affected. Two males had a sister affected, one a mother, one a brother and his mother, one an uncle, and one his paternal grandfather. The rest denied, or had never heard of, any other cases in the family.

Though it is no doubt correct that in many psoriasis patients there is evidence of general good, and even in some cases robust, health, I hold that the frequency of such good health is often overrated, even when a fairer test is obtained by investigating the matter amongst well-to-do private patients. My experience of children suffering from psoriasis is that they very frequently suffer from chronic dyspepsia or frequently recurrent attacks of disorder of the digestive system, and I have over and over again noticed the presence of chronically enlarged tonsils, and even of adenoid vegetations. Very marked lowering of the general tone is, however, soon apparent in the condition of the patches of disease, and more or less marked crusts take the place of scales. One case with simple crusts attended, and another with the rupioid crusting formed by the peripheral spread of the papules. The influence of lactation in women in developing psoriasis is well known and frequently illustrated. It is well to bear in mind for diagnostic purposes in old-standing cases that have been already treated, that a course of arsenic sometimes leaves a considerable pigmentation behind on the removal of the patches. Two such cases were observed. The distribution of the papules was more or less characteristic in all the cases except one. It was in a woman of 45 years, who had presented for the last twelve years a chronic diffuse, leathery, reddened condition with marked desquamation of the whole of the plantar surface only of the feet and toes. For six

years past one or two similar patches had appeared just on and below the knees, but there was no history of any prior eruption, nor clue to syphilis. I last year alluded to the more delicate eruption of psoriasis sometimes seen in children and mostly distributed on the trunk and not on the extensor aspect of the limbs. Of this a case was seen in a boy of 15. A good example of psoriasis beneath the nails was seen in a man with a very chronic generalised eruption.

The treatment of extensive cases of psoriasis in the out-patient room is not very satisfactory. The inability to bathe frequently is much felt, and the rubbing in of applications, both as regards frequency and the necessary vigour, is much neglected. The use of dirty or strongly-smelling applications, such as chrysophanic and pyrogallic acids and tar, is often impossible for them, so that we have to fall back on less active remedies. What they seek is a cure by drinking medicine, and that is a long and often unsatisfactory process by arsenic, iodide of potassium, turpentine, &c. I tried the brisk rubbing in of salicylic acid in castor-oil in several cases with advantage, though it is not one of the most potent remedies. With chronic localised patches we can deal more satisfactorily with the chrysophanic and pyrogallic acid and other pigments and plasters.

Rosacea.—Of the twelve cases, nine were females and three males, and the ages ranged from 23 to 50. Few of the slighter affections annoy a patient more, and in the majority of cases few affections are more amenable to treatment. The very troublesome ones are those in which the continued congestion of the face is due to chronic uterine disturbance.

Scabies.—Fifty-two cases were seen, or about 7 per cent. of the whole of the material in the Department. I was surprised to read in a recently published volume that failures to extract the acarus are very frequent. This is certainly not my experience, and I think it very desirable that students should be taught to be skilful in the extraction. The latter are apt to be rather contemptuous of this affection, and consequently imperfect acquaintance with the disorder causes the most lamentable failures of diagnosis in after-life.

SCROFULODERMA.—Notwithstanding the very formidable attacks made on our conceptions of a constitutional vice called *scrofula*, the majority of authors still continue, for various reasons of convenience or conviction, to maintain a separate group of affections of the skin called scrofulodermata, distinct from tuberculodermata and lupus. And whilst some would only retain in this group "chronic caseous enlargement with characteristic suppuration and subsequent scarring of the cervical" and perhaps other lymph-glands, others include "exactly similar changes," which more rarely appear in the skin or subcutaneous tissue where no lymphatic glands exist. Others, again, add cases of such skin lesions which begin in the subcutaneous lymphatic glands, and the "cold subcutaneous abscess" or "scrofulous gumma," which arises as a small, flat, indurated growth immediately beneath the true skin. Lastly, in many works we still find certain eczemas, especially those of a pustular character, attributed to scrofula, also boils, and even molluscum contagiosum. Naturally these lesions present a variety of appearance according to their stage, but taking a single feature like an ulcer, we find a great difference in the description of the characters assigned. I here follow the general custom in retaining a Scrofuloderma group, though I think we have nearly seen the last of it. The following cases would come under this category:

Annie B—, æt. 17½, sent from a home for destitute females, is a stout girl with somewhat squat figure and unhealthy appearance. The lower third of both legs all round are studded with about a dozen phlegmons the size of a hazel-nut, violaceous in colour, very indolent, projecting, oval, or rounded in shape. Some are surmounted by a desquamating plate, and others have resolved, leaving a livid stain. One on the front of the middle of the shin is not seen, but only to be felt subcutaneously like a nut. On the left leg most of the lesions are broken down into punched-out ulcers, and they confluent here into a diffuse infiltration. The whole appearance reminds one very much of certain late syphilides, but no clue can be obtained to any syphilis, hereditary or acquired. The condition has lasted three years. She has a large suppurating gland beneath one jaw.

Harry E—, æt. 3, was a very marked example of the so-called *scrofulous dactylitis*. He presented a number of "cold abscesses," or "scrofulous gummata" of the subcutaneous tissue, and also dactylitis of several of the phalanges and metacarpal

and metatarsal bones. He had a considerably enlarged spleen, but I could not gather any other evidence pointing to hereditary syphilis. I sent the boy into the wards, where the full notes and the subsequent history will, no doubt, be found recorded.

Minnie V—, æt. 4, presents a livid red, ovoid, projecting, gummatous-looking swelling, the size of a bantam's egg, immediately above the left popliteal space. It is now full of pus and fluctuating, but began one month ago as a cold chronic abscess. Just above this is a livid irregular patch, indistinguishable from confluent lupus, scabbed over, which has been left by a similar abscess. She is a healthy-looking child with good teeth. The mother has had one mishap at three months, and five children born, four of whom are living, whilst one died at five years of age. Minnie is said to have had "the thrush" go through her slightly as a baby.

Seborrhœa and Lichen circinatus vel S. Corporis.—The scalp is the most frequent seat of seborrhœa, and eleven cases were met with in which the disease was confined to that region or had only spread to the neighbouring parts of the face. Dry, erythematous, irregular patches, with partially detached scales arranged in a reticular pattern are common, on children's faces, especially when cold winds are prevalent, and this phase of disease I also include with seborrhœa and not with eczema. Eight cases of lichen circinatus attended, three females and five males, and the ages ranged from 7 years to 54. I do not remember to have ever seen a well-marked case of the disease, as figured by Wilson, in a child, and the girl, æt. 7, included in my list had some erythematous irregular patches on the back that many would probably class with eczema. The other seven patients all wore flannel, and there is little doubt that this is a potent factor in producing the eruption, especially when the same flannel is worn night and day for a considerable period. However, I have often seen the eruption in those who do not wear flannel, and who are presumably healthy. Since I have examined extensively for life assurance I have been struck with the frequency of occurrence of the eruption. I have noted, as bearing on my views of its nature, that in four of the cases there was more or less seborrhœa of the scalp, and I find on examining the trunk of

patients who apply for the relief of S. capitis that it is not uncommon to discover some S. corporis.

Apart from other clinical peculiarities I would call attention to the peripheral uniform spread of the discs. This is quite unlike eczema, in which patches spread by the evolution of fresh pin-head-sized lesions at the border, which become gradually included in the extending patch.

The evolution of S. corporis may be quite acute, and this I observed in the case of a relapse in one of my cases, a very marked and typical one.

TINEA TRICHOPHYTINA.—I have continued to treat a large number of the cases with the old-fashioned verdigris ointment (ʒss—ʒj to the ℥j of base), though I have discarded the resin ointment base as too tenacious. The scalps of different children react in such an unequal manner to irritating remedies that I always feel my way, so to speak, with any application of this class. Just as the growth of the fungus itself simply causes a mild inflammatory blush and desquamation, or only the latter, or all degrees of inflammation up to pustule and kerion, so verdigris ointment may hardly redden the scalp or cause little gangrenous spots or abscesses. I adjust the strength so as to excite pustulation. A rapid cure is of great moment to all, so I try to get rid of the diseased hairs by exciting pustulation, and then they either fall out, or can be readily epilated by tearing off the crusts, or after the crusts have fallen. I am also a strong advocate of keeping the head shaved in widespread cases, as by that means you clear off all the disease above ground, so to speak. I also order the head to be scrubbed with soap and hot water every morning, before starting rubbing, because it keeps the head clean, it prevents any fungus effecting a settlement in new areas, and it clears out, as far as possible, the blocked follicles. I carry out more and more in suitable localised patches of small size the *mechanical treatment by croton oil.* If the child is not of tender age you can tear away the crust, and so epilate wholesale, and the inflamed scalp is in a more favorable condition for successful epilation after the fall of the crusts. I am constantly asked if I do not produce scars, and I answer no, if I have previously ascertained that the scalp will bear considerable irritation.

I call attention to a case of tinea tonsurans associated with pustular patches of tinea circinata on the forehead and neck, not to be distinguished by the eye from impetigo contagiosa. The crusts were loaded with mycelial threads.

Tinea circinata is, as a rule, easily diagnosed in children, but adults sometimes come with localised pustular or vesicular patches, spreading over the hand or elsewhere, which is not recognised as ringworm, I find, by others, though the suspicions of the expert are at once aroused, and subsequently confirmed by the microscope.

Tinea barbæ.—Two cases were seen, and in both the fungus demonstrated. A man, æt. 46, had a dozen big inflammatory nodules beneath the chin, in his beard, and on these were seen a few typical, broken-off, ringworm hairs. There were also a few scurvy places, but no rings. It was apparently contracted from a child. Another man, æt. 45, presented big nodules studded with pustular points from which the diseased stumps had fallen out. The whole beard region was much inflamed. On the neck, where diffuse, irregular, erythematous patches existed, many characteristic hairs were found full of fungus. The disease was inoculated in this man, and in three or four others, whilst being shaved at a barber's.

Tinea vesicolor.—Three new cases, aged 21, 31, and 40, were treated, and several old recurrent ones. Directly the pigmentation goes from the skin and the itching stops, patients cease the treatment, or they leave some imperfectly cured area, perhaps in some inaccessible region on the back, or some is overlooked. To effect a satisfactory cure the treatment must be prolonged and thorough. No doubt, however, some people present favorable conditions for the growth of the fungus and are subject to fresh attacks. John T— had a very extensive attack of sixteen months' duration. There were only a few macules on the upper part of the trunk, but the lower half and the buttocks were covered by an almost continuous sheet. A few attempts at the formation of rings were seen. The disease extended down the arm to the middle of forearms, slightly over the groins and thighs, and thickly all over the legs to the ankles, where a little macule existed around every hair, and he was a very hairy man. I examined

numbers of these hairs under the microscope and could not get a specimen where they were affected. His wife was free. In the case of a woman (Agnes N—), whose trunk had been covered for many years, it had spread only slightly on the neck and arms. In a third case, the man Thomas W—, had been affected for quite fifteen years. It extended all over the trunk, on to the neck and upper arms, and over the groins. A central island of healthy skin existed over the sternum. The abdomen was remarkably speckled all over, *i. e.* the disease was limited to the immediate neighbourhood of the follicles. *His wife had it before he did and also her sister.*

Rodent Ulcer.—Two cases of much interest were under observation. In the first I wish to draw attention to a feature I have several times seen, and which is not described. I allude to the continued extremely superficial character of the growth. In this woman it had travelled over the nose and part of the cheek, and there was hardly any ulceration, but the area enclosed by the characteristic rim of growth was scar tissue.

Maria H—, æt. 68, has a diseased area occupying the bridge of the nose, part of the left side of that organ, and all the right side up to the inner canthus of the eye. It is bordered by a sinuous, rolled, opaline, cartilaginous-looking characteristic edge, but much broken up. The whole interior is scarred over, with the exception of two or three points immediately within the advancing new growth. It is itchy but hardly painful. The growth began as a pimple eight or ten years ago, and was scratched, scabbed over, and gradually spread.

The second case was still more remarkable, and perhaps some doubt as to its real nature may be felt, but I have little hesitation in assigning it a place here. Rodent ulcer is always said to occur as a single growth, but this is now the third case of multiple rodent ulcer I have seen. There were some further noteworthy features in the tendency to purgation, the presence of warts on the hands, and the pigmentation and thickening of all the small-pox scars.

William C—, æt. 63, presented on the right side of the scalp near the forehead two painless, clean, somewhat fungating shallow ulcers, about half an inch apart, and each nearly the size of a two-shilling piece. The upper ulcer had a characteristic edge only at one part, the lower a

very distinct, rolled, cartilaginous-looking edge, with the ulceration advanced right up to it. The upper one began quite twenty-five years previously, and the second a few years later; both "like a corn," which scaled over, was pink, became crusted, extended, &c. On the right cheek below the eye was a smaller and more recent superficial ulcer, which everyone would admit was a characteristic rodent. On the left cheek near the nose was a small warty growth, hardly the size of a split pea, which was probably a commencing fourth one. Further, he was covered with discrete scars, very conspicuous on the bald scalp and face, resulting from variola contracted at the age of four years. These scars had become pigmented, and looked at a distance remarkably like a fading roseolar syphilide, but on close examination proved to be slightly raised and reticulated on the surface from the presence of congeries of minute plane warts faceted together. Lastly, the backs of his fingers were covered with numerous ordinary warts. There were no enlarged glands, and the health was good.

URTICARIA.—Twenty-seven cases are recorded, and of these no less than fifteen belonged to the very peculiar phase called urticaria papulosa (lichen urticatus), and occurred in children. This phase, in my experience, completely takes the place of the ordinary urticaria of adults, and is one of the commonest affections of infancy, and often one of the most intractable. After five or six years of age it becomes rare. Mistakes in diagnosis are frequent. Cases are often treated for months as scabies, and the pustular variety is occasionally diagnosed as varicella. I have been much interested in the affection for several years, and propose shortly to lay the results of my experience before the profession at some length. I may state here that I have watched cases for years, and, without denying absolutely that Hebra's prurigo may begin with urticarial complications, I entirely dissent from the view that urticaria papulosa has anything to do with that disease. In the vast majority of the cases the eruption gradually dies out, even in very obstinate cases before the fifth, sixth, or at any rate seventh year as a rule. Very rarely the eruption is continued into adult life, and then *as an urticaria*.

I need only call attention to two cases in adults, and they have some bearing on what I have just written.

Mary S—, æt. 25, a fairly healthy-looking woman, has sought relief at various institutions. She came with some distinct urticarial wheals present, white and red, and feeling firm to the touch. Many were

better felt than seen on the face and arms and behind one ear. Most of the eruption, however, consisted of deep excoriations the size of a split pea, and crusts due to the fierce scratching tearing the top of the wheal off to relieve the intense itching. The unwary may easily be put off the scent by these appearances, especially if no wheals are to be seen at the time of examination. She stated that she had been affected ever since five months old, and that she had never lost the eruption, though it was better in the cold weather. The eruption used to be on the body, but had become localised on the forearms, backs of the hands, the legs, and the face.

I am afraid that I was not more successful than others in curing her, and she soon disappeared.

John W—, æt. 21, came with urticaria of the backs of the hands and lower half of the forearms and of the face. In the latter situation the eruption slightly simulates rosacea, and the nose was much swollen. The lesions were the size of the little finger-nail, mostly red like erythema papulatum, but many white or yellowish in the centre and distinctly urticarial. Very many had the tops scratched off, and were surmounted with blood scabs. The wheals appeared mostly at night and in the summer. He had been affected since infancy (since vaccination, he said).

Whilst writing this I have seen a very remarkable case of a precisely similar kind, but still more severe, in a young woman sent me by Dr. Twining, of Salcombe. Her brother, æt. 35, was also affected from infancy.

Acquired Syphilis.—I have arranged the fifty-four cases in a Table as in last year's report;

Macular syphilide.

Joanna B.	29	Married seven years; four children, all living and healthy; no mishaps. Recent sore genitals; aching in shins; enlarged glands in neck, one under jaw; threatening suppuration; anæmia; typical, slightly itching, macular syphilide of abdomen of fourteen days' duration; some small papules of limbs and trunk.
Edith S.	18	Unmarried. Discharge from genitals three weeks. Macular syphilide over abdomen and down the inside of the arms to the elbows. A few raised, smooth papules, and some acneiform papules on the abdomen.
Thomas H.	25	Chancre fourteen days' duration. Had connection two months ago. Adenitis groins, and later general, faint, slight mottling of trunk. Pil. Hyd. c̄ Cret. gr. ij bis die ordered, and one week later trunk covered profusely with urticarial-

		looking macular syphilide, which remained out for about two months; a few on the neck, thighs, and arms. Very little itching. Temperature normal.
Geo. H.	15	On the scrotum, perinæum, and right thigh, are seven or eight eroded or ulcerated punched-out sores of three weeks' duration (?), only slightly indurated, and surface exuding freely. Absolutely denies intercourse, and cannot find site of initial lesion. Very hoarse, but no ulceration fauces. General adenitis, very marked under right jaw; one felt just above right knee in front, not enlarged above elbows. All trunk, and all limbs to hands and feet covered thickly for last five days with dull pink, smooth, very itchy macules; face and neck *nil*. In scalp crusted spots. Temperature normal. Bad osteoscopic pains. One week later superficial ulceration tonsils.
Henry G.	18	Connection five weeks before; chancre noticed about two days later (?). Non-indurated chancre in sulcus and on corona. Groin glands indurated quite lately. The macular eruption appeared over the abdomen about the fortieth day.

Papular syphilide.

Robert D.	17	Connection Oct. 3, 1886. First noticed chancre about beginning of December. Healed spontaneously in a month, and mark now seen on prepuce. Never noticed macules, but present papular eruption appeared three weeks ago. Congestion fauces; shotty glands groin and neck. Papules flattish, rounded, smooth, up to little finger-nail in size, but mostly much smaller; a few scaly. Also many groups of miliary papules, and one or two acneiform. Distribution on the flexor aspects of the extremities, but most numerous on the lower half of the trunk, about the loins and flanks, none elsewhere.
William M.	22	Denies any chancre. Says he never had a sore-throat. Has been treated elsewhere for syphilis, and now only pigment stains all over legs and arms, with a few faint ones on trunk.
Janet D.	36	Sore on genitals seven to eight weeks ago, contracted from husband. Now sore-throat, slight ulceration fauces, eroded papules on and beneath tongue, general adenitis, and a well-marked, general papular eruption of the trunk, face, and limbs, mostly on flexor aspect of latter. Papules have a general disposition to *scale*, and, on the chest, wonderfully like psoriasis, except in colour. Many on the arms are smooth.
Martha C.	47	Married. General large papular eruption on limbs, mostly on flexor aspects. Three months' duration. *Many lesions scaly and like psoriasis.* Many on tongue and several on hard palate. The neck is the seat of a well-marked small patterned *leucoderma*. The white marks are not left by any eruption.

Jane Y.	24	Married. Child nine months old. Typical eruption of medium-sized, smooth, coppery papules, or macules becoming papules, two months' duration, distributed profusely all over trunk, and all round the extremities equally, even to palms and soles. Congested fauces and general adenitis. Crusted eruption in scalp, none in mouth.
Louisa S.	53	Seventeen children born alive and three mishaps. Now a general large papular syphilide, adenitis, and sore-throat; flexor aspects of limbs most attacked.
Alice B.	26	Married, child nearly seven months old. General large papular syphilide, with condylomata ani et vulvæ of two months' duration; itching papules of palms and soles; congested fauces and hoarseness; general adenitis; hair falling out.
Alfred A.	23	Had connection five months ago; denies all knowledge of syphilis, but history of sores on the penis four months ago; general large papular eruption; ulcer side of tongue and on hard palate; whole fauces congested; adenitis; herpes preputialis.

Relapsing papular syphilides.

Joseph M.	43	History of earlier symptoms	Ringed patch of coppery papules, the size of the palm, on the inside of the knee and on the shin.
Robert P.	29	Chancre and eruption at 21 years of age	Sore tongue five years, now silvered over; papular recurrent eruption of arms on and off for two years.
Caroline F.	40	No history; eight children, four living, one stillbirth	Six papules of right sole, over which the cuticle is heaped up, simulating corns.
Alma G.	23	Married seven years, four children, no mishaps or stillbirths	Papular syphilide for eight months of one palm.
Henry P.	40	Says he had syphilis fifteen years ago, but no eruption and no sore-throat	Superficially ulcerating papules on one sole for eight years; great irritation; marked *leucoplakia* of tongue and cheeks.
Geo. H.	33	Denies all knowledge of syphilis	Flat, coppery, desquamating papules in left sole and both palms; lately had similar eruption on penis; whole left hand and fingers have desquamated several times; tongue *nil.*
Elizabeth H.	51	Twelve children, the last twins; one mishap at six months, rest full time and healthy	Large papular syphilide one sole for twelve months.

Rose K.	41	Denies any general eruption	Disseminated pustules of scalp; ulcerated mucous patches in mouth; a few fading papules of neck and bend of elbow.

Papulo-tubercular syphilide.

Ellen F.	32	Married fourteen years; one child, no mishaps or stillbirths	For seven years had relapsing papulo-tubercles in patches on the shoulders and thighs, arms, ear, right side of pharynx; very severe nocturnal headaches.

Acneiform syphilide.

Violet H.	32	Twelve months ago had a general eruption and iritis, and lost hair and voice	Acneiform syphilide of forehead.
Laura F.	23	No history	Miliary pustules of scalp and nocturnal headaches.
Fred. B.	28	Chancre and eruption eleven years ago	Recurrent acneiform syphilide of scalp and temples.

Tuberculated syphilides.

Anne C.	41	Denies any prior eruptions	Serpiginous tuberculated syphilide, scaly or ulcerating; began on right side of neck, and wandered across neck and top of chest to left side.
Geo. C.	34	Contracted syphilis ten years ago in India; married fifteen months; had one child, which lived five months	Scalp and forehead near the hair; ulcerating on side of neck. Had *hemiplegia* in 1881.
Elizth. H.	59	No history of eruptions; eleven children; six alive, two stillbirths	A few nodules on right cheek near the nose.
James B.	50	Denies syphilis	In April a raised large papular eruption sparsely disseminated on the body. In the axillæ an acute vesicular eruption like eczema. In December came again with a miliary papular eruption in axillæ, certainly not eczema; also well-marked papular syphilide of right thigh and cleft of nates. The

			lesions are miliary and flattened at first, and spread peripherally up to size of split pea or fourpenny-piece, and get ringed or crescentic
Susan A.	41	No history of eruptions; five children born living, then two stillbirths, and then two more born alive	Right arm.
Charles D.	29	Syphilis fourteen to fifteen years ago; married ten years; wife not had mishaps or stillbirths	Scalp, temples, elbow.
Rosa S.	33	No history of prior eruptions; married fifteen years; first five children born living and healthy, sixth born dead about full time, seventh living	Smooth nodules disseminated on face, some reddened or brownish, others shining, semitransparent, and same colour as skin. The eruption only come since birth of last child. Has had severe pains in legs, sore roof of mouth and throat, and dim eyesight.
Grace E.	24	No history of prior eruption; three children born alive; her last had very bad eruption; her husband had syphilis	Three nodules becoming pustular on forehead near hairy scalp; papulo-tubercular eruption in bend of right elbow.
Herman K.	49	Syphilis quite fifteen years ago in East Indies	A typical case of universal, confluent, nodular syphilides of the face, simulating lupus vulgaris; began on nose ten months ago, and now an uneven nodulated sheet of infiltration occupies all the face, coppery or violaceous in colour. Not many enlarged veins present; no acne pustules, though some nodules ulcerated and leave deep scars; had eruption on elbow five years ago. A sailor; drinks.
Sarah J.	34	Never eruptions before; six children living, all said to be healthy; baby two months old	Ulcerating nodules grouped on abdomen; the lineæ albæ around are very œdematous and tender.
Prior C.	25	Chancre ten to eleven months ago, and general eruption	Typical, livid, nodular syphilides of right shoulder, leaving deep scars; also of both legs and ankles; nodules of all sizes up to big nut.
Laura W.	26½	?	Corner of mouth and chin.
Arthur S.	38	Sores on the penis nine years ago; never had	Left side of nose infiltrated with confluent nodular syphilides. Ulcera-

		any symptoms since	tion has perforated nose. One month duration. Rapid cure under mercury and iodide of potassium, and subsequent relapse.
Ellen S.	42	No history of prior eruptions. Married twenty-three years. Had seven living children, and now has just aborted for the fifth time in succession	A dull red, uniform, exfoliating, confluent patch on the nose, simulating lupus vulgaris. At the border are discrete nodules, the size of kernels of hazel-nuts, semi-transparent, and only faintly coloured. Duration seven months

Gummata.

Ellen H.	53	No history of syphilis beyond ulcerations on legs	Gumma over anterior tubercle of tibia. Two ulcers, not characteristic, over lower third of leg; varicose veins. Numerous big scars on legs, some left twenty-four years ago.
Sarah McG.	31	First four children living, fifth died at four and a half months, sixth stillborn, seventh lived twenty-three hours. Denies general eruption, but says husband had syphilis five years ago, and she had sore-throat four years ago	Two deep red-coloured gummata of right shin, simulating erythema nodosum. Behind, at termination of calf below, are two or three confluent breaking-down patches.
Emily S.	39	Six children, all but two died young, no mishaps or stillbirths	The whole of the right leg is the seat of confluent gummatous ulceration, breaking down into punched-out ulcers; individual lesions, size of half-a-crown or more; has been also on left leg.
Fanny B.	24	Syphilis at 16 years of age; was in Lock Hospital four years ago with bad leg and eruption on back	Punched-out gummatous ulcers all over lower third of leg, and to a less extent over middle third; old scar on thigh.
Henry H.	55	Denies all syphilis	Punched-out shallow ulcers, from fourpenny piece to shilling in size, many crusted over; disseminated on thighs and legs.
Emma B.	37	?	Gummatous ulcers of lower third of leg.

Martha G.	35	First two children born alive, third miscarried at four months, fourth at three months, fifth living; denies any general eruptions	Foul gummatous ulceration all round lower third of leg.
Agnes B.	37	Had several stillbirths	Sinuous, punched-out, shallow gummatous ulcers of lower and middle parts of leg for seven years off and on; big scars on one thigh left by lesions fifteen years ago.
Matthew S.	21	Syphilis three years ago, with recurrent eruptions	Gummatous ulcer of leg.
Nellie N.	42	Never any family	Multiple gummatous ulcers of thigh, leg, and knee of one side.
Sarah C.	36	Syphilis contracted from husband ten years ago	Multiple gummatous ulcers of legs for two years.
Rose L.	25	Never any children	Multiple gummatous ulcers of both legs.
Mary D.	39	Eleven children, only four now living, though most grew up; never any stillbirths	Extensive patchy ulceration all round junction of upper and middle third of one leg.
William C.	33	Syphilis fifteen or sixteen years ago	For last eight years deeply punched-out ulcers all round left ankle-joint.

Node.

Alice H.	22	No history to be obtained	Fusiform node of left shin. There are three or four livid "phlegmons" around, one ulcerated and crusting, just like those so commonly seen in children, the size of a big hazel nut (cutaneous gummata).

I may add a few words on the case of Elizabeth H—. She originally consulted a medical man for a single pale nodule of one cheek. This was removed, and many giant-cells found on section; one or two fresh nodules appeared around the scar, and they yielded with ease to iodide of potassium, but so prone was she to iodism that I had to treat her with half-grain doses of the iodide of sodium.

HEREDITARY SYPHILIS.—Of the eleven cases, two presented symptoms of great interest to me, and two others may be briefly mentioned :

Louisa W—, æt. 5 months, was born completely bald, and later had a typical eruption, "pseudo-paralysis" of one arm, and an enlarged spleen. Her mother had suffered from syphilis four years previously.

Phœbe C—, æt. 5 months, was born with plenty of hair, but at three months was quite bald except posteriorly, and has continued so. She never had any eruption of the scalp.

The two cases to which I especially wish to refer are the following. They both presented a remarkably similar phase of eruption, except for the ringed grouping in one case. In hereditary syphilis the universal experience is that after two years of age relapsing papular or papulo-tubercular eruptions only occur very rarely. I have followed the course of several hundred cases of hereditary syphilis, and beyond condylomata I have never seen relapsing eruptions till the tertiary lesions occur about adolescence, and then the skin is not one of the most favoured sites. In many of the cases of so-called late hereditary syphilis it is difficult to exclude a syphilis acquired in infancy, but in the two cases I now record the hereditary history was very strong.

Priscilla B—, æt. 13, with typical Hutchinson's pegged teeth, old interstitial keratitis, earthy complexion, and stunted growth, slightly scarred at corners of the mouth, was a member of a family born in the following order: Her father married in 1856. First four children living; fifth stillborn in 1865; sixth and seventh twins; eighth lived six months; ninth mishap; tenth mishap; eleventh living, twelfth Priscilla. The father then married a second time. This wife, who states she has always been healthy, has had a living child, a mishap at two months, a living child, and a mishap at three months. I saw several of the first family, and three of them had syphilitic teeth. Priscilla presents an eruption extending from the left buttock fold nearly to the knee down the back of the thigh. Its duration is from thirteen to sixteen months. It is composed of rounded papules, rather smaller than a split pea, very slightly raised, each crowned by the slight scab attached by its centre and separating at the edges. The papules are mostly confluent, but only partially, so that the composition of the patch can be easily made out. The colour is remarkable, red but with a dash of brown, reminding one of lupus. They tend to resolve here and there, and leave a very faint scarring, and also considerable staining. Careful inquiry failed to disclose any history or trace of

psoriasis in the family. I gave her increasing doses of arsenic for two months, and though many of the papules disappeared, fresh ones continued to come out. I then put her on the Mist. Hydrarg. Biniodidi of the Hospital Pharmacopœia, and all the eruption disappeared in two months, leaving faint scars. Two months after discontinuing the medicine the eruption relapsed in the same situation, and the latter medicine again slowly took it away. This has now happened at the time I write three times.

George A—, æt. 10, is also a member of a family with a striking syphilitic history. The majority of them have been under my care with characteristic teeth, interstitial keratitis, nodes, or osteo-chondritis and osteophytic thickening of the bones. George has well-marked screwdriver teeth, interstitial keratitis, and nodes of the tibiæ. On the right shoulder and left forearm are two psoriasiform patches, composed of dull, reddish-brown papules, slightly scaly, grouped in crescents, one reniform, one trefoil-shaped. One group is the size of the palm, and one half the size. They have existed three months, and he has never had an attack before. This eruption is strikingly like that of Priscilla B—, and, as in her case, it gradually disappeared during the administration of Mist. Hydrarg. Biniodidi.

MISCELLANEOUS.—I arrange here certain cases which it is not easy to assign to any of the foregoing groups.

LENTIGINES.—Rose F—, æt. 60, came with a copious eruption of *freckles* (not stains) disseminated over the trunk, and especially over the limbs. She stated that they had all appeared with violent pruritus within a few weeks after a severe shock. The veins over the hands were full, and on the legs there were teleangeiectases and varicosities, especially about the ankles. The shins pitted. I could detect no visceral disease, but her heart palpitated at times violently, and the beat was irregular. She was getting thin. I soon lost sight of her.

URTICARIA HÆMORRHAGICA (?).—Emma B—, æt. 37, a big, stout, unhealthy, florid-looking woman, a cook, probably intemperate, came with syphilitic ulceration of the legs, which yielded to treatment. On February 16th she also had a number of hæmorrhagic stains, dull, livid, irregularly outlined, and not fading on pressure, on the legs, and a few on the arms. She stated she had noticed them for fourteen days. In April she came with apparently chronic *general* urticaria. I observed typical evanescent wheals on the arms which left no stains, but on the legs there was a mixed eruption. There existed purpuric-like stains about the size of the little finger-nail, and mixed with these a number of papules like those of erythema papulatum. I connected the two phases together because I traced the intermediate stage, and felt many mere stains still thickened and infiltrated. Some of the fresher papules also seemed to have a distinctly urticarial element. The eruption was

not localised about the joints. In July she came again with a very thickly sewn similar eruption. She was very irregular in her attendance. She was not suckling, not anæmic, and I could find no disease of liver, heart, or kidneys. There was some œdema about the ankles, and, in reply to questions, she stated that her joints swelled at night.

I was very much puzzled with this eruption, but was forced to the conclusion that it was an urticaria with hæmorrhage, rather than erythema multiforme or peliosis.

NOTES FROM THE THROAT DEPARTMENT.

By Dr. de HAVILLAND HALL.

I have this year followed the plan adopted in previous years, and have selected some of the most interesting of the cases attending in the Throat Department for comment.

Œdema of the Larynx.

In vol. ii of the 'Reports,' page 91, I recorded the case of a young man suffering from œdema of the larynx, and pointed out that in some of these cases we have to do with a condition akin to erysipelas. Dr. Donkin has kindly given me permission to publish the notes of a patient admitted under his care, in which my opinion as to the laryngeal condition was requested.

Sarah W—, æt. 54, married, admitted into Westminster Hospital June 12th, 1888.

Patient states that she has been quite well for the past twelve months, and was able to attend to her household duties up to date of admission. She accounts for her present illness by getting wet feet through wearing imperfect boots on June 8th. On the 10th the patient had some slight throat symptoms, but these disappeared in the afternoon. The next morning she awoke with no inconvenience from the throat, but at 11 a.m., when about to take lunch, she found that she could scarcely swallow, and complained of feeling considerable pain some distance down the throat. At about 6 p.m. she became rapidly worse and had a very troublesome sense of choking; she passed a very

restless night and came for admission next morning. On admission, she complained of headache and a feeling of suffocation.

There was nothing noteworthy in her family history. As regards her personal history, she stated that she was always delicate, and had had inflammation of the lungs twenty years ago.

Present condition.—Patient in bed, pale and looks ill, with distressed breathing. No apparent swelling. Chest *nil.* Pulse 84, regular, small, soft. Heart's impulse displaced slightly outwards towards nipple line. Cardiac dulness diminished in area. Systolic bruit heard at apex. Urine acid, 1030. No albumen, no sugar.

The temperature on admission was 102° F., at midnight it had fallen to 100·1°.

I was called to the patient at 10 P.M. and found her suffering from severe dyspnœa. There was great swelling of the epiglottis and ary-epiglottic folds, so as almost completely to occlude the glottis. Before proceeding to scarify the larynx, I decided to try the effects of cold; the patient was accordingly directed to suck small pellets of ice and to have an ice-bag applied round the neck. This was done with a very satisfactory result.

The next morning, June 13th, in order to disturb the inflamed parts as little as possible it was decided to feed the patient by the bowel; a peptonised beef suppository was ordered to be administered every four hours, and an enema of half a pint of tepid water once in the twenty-four hours.

11 p.m.—Patient quite comfortable and breathing easily. The temperature during the day has never been above 99° F.

By the 15th the patient had much improved, could swallow without difficulty, and had no interference with respiration. The suppositories were discontinued and she was ordered milk and eggs.

The temperature, which on the 15th and 16th had been subnormal, rose at midnight on the 16th to 101·2° F., and next morning the patient complained of soreness of the left side of the throat. The tonsil was inflamed and covered with a yellow exudation. The patient complained of feeling very ill, but the breathing was unimpeded.

June 18th.—Both tonsils somewhat inflamed and tumid, the right more than the left. The suppositories were renewed on account of the difficulty of swallowing.

19th.—Right tonsil less swollen, left tonsil still tumid; fauces red and inflamed, but patient states that she feels much better, and is able to take food by the mouth again. A slight amount of pyrexia continued until the 23rd, but the patient made uninterrupted progress, and on the 26th the vocal cords were normal, but the epiglottis still remained a little thickened. The urine was free from albumen throughout the course of the case.

July 1st.—Discharged well.

This case resembled very closely the one I alluded to at the commencement. In both we have to do with a sudden

œdema, evidently of an inflammatory nature, attacking the larynx and giving rise to alarming symptoms. In both patients after they were convalescent from the laryngeal mischief, came a return of fever, with, in the first case, acute inflammation of the tongue, and in the present case a similar condition of the fauces. The appearance of the parts, the migratory character of the attack, and the whole history of the cases, is certainly very suggestive of erysipelas. If these cases be really of an erysipelatous nature, their termination bears out the Hippocratic aphorism, "When erysipelas extends from within outwards it is a favorable symptom, but when it removes to the internal surfaces it is a deadly one."

As regards the treatment, I wish to draw attention to the speedy improvement which followed upon sucking pellets of ice, and the application of an ice-bag to the neck. The importance of keeping the parts at rest made me order the nutritive suppositories, and I am sure that feeding the patient *per rectum* conduced to her speedy recovery. The introduction of the peptonised suppositories has so facilitated rectal alimentation that I am giving it an extensive trial in acute throat affections attended with dysphagia, and I am much pleased with the result.

Phthisis.

Given a patient suffering from hoarseness, and if on examination the cords, though of normal colour, have lost their tension, and if one cord is less mobile than the other, or, as it has been termed, is "lame," then I would lay great stress on any doubtful physical signs at the corresponding apex. I have no definite statistics on the subject, but I have been struck by quite a number of cases in which incipient phthisis of one apex has been accompanied by impaired mobility of the vocal cord on the same side.

In one of my cases of phthisis, in which there was advanced mischief at the left apex, the left vocal cord was found motionless in the cadaveric position. As to the cause of this condition I am unable to speak with any certainty. Of one thing I am sure, and that is that the fixation was not of a

mechanical nature, as the crico-arytenoid joint showed no sign of disease. I can only imagine that the left recurrent had become implicated in some pleural thickening and thereby got compressed. This has been known to occur on the right side, so there is no reason why it should not be met with on the left. The only other suggestion I can offer is that in addition to the phthisis the patient had an aneurysm pressing on the recurrent; against this view is the fact that all other signs and symptoms of aneurysm were conspicuous by their absence. Unfortunately the patient, after attending for many months, ceased coming to the hospital, and I do not know what became of her.

Syphilis of the Larynx.

Among the patients suffering from syphilitic affections of the throat, in three condylomata were found in the larynx, and in all three the condylomata were situated in the inter-arytenoid commissure. I have seen condylomata on the epiglottis, but, as the above figures would indicate, the inter-arytenoid commissure is the usual seat. It is difficult to understand how it is that some distinguished laryngologists deny the existence of condylomata within the larynx. In all the three patients in whom I noted the presence of these mucous tubercles there were other marked signs of secondary syphilis, such as eruptions on the skin, mucous patches on the soft palate and pharynx, and glandular enlargement. Under the usual anti-syphilitic treatment the condylomata soon cleared up; locally a solution of chloride of zinc, thirty grains to the ounce, was applied to the larynx by means of a brush.

Some cases of tertiary syphilitic ulceration of the throat are very puzzling. I was particularly struck with one case that came under my care in the out-patient room last year.

The patient was a man æt. 23, who had suffered from sore-throat for five months. He had been treated at another hospital by a very able physician, who, however, had not recognised the nature of the disease. On the most careful investigation I failed to find any evidence of primary or secondary mischief. The patient admitted having been

exposed to the liability of infection, but denied ever having had any discharge from the urethra, sore on penis, eruption, or sore-throat, and no scars were visible. The only evidence of syphilis was furnished by the condition of the posterior wall of the pharynx, which was deeply ulcerated and covered by muco-pus; the border of the soft palate was also ulcerated. The patient looked very ill, had suffered much pain, had lost flesh, and had difficulty in swallowing. On February 7th I ordered five grains of iodide of potassium three times a day, with Lotio Nigra as a gargle. On the 9th the dose of iodide was doubled, and on the 16th increased to fifteen grains three times a day. On March 2nd the patient stated that he had had no pain for the last three days, and that he was able to swallow with ease. Only a small patch remained unhealed. On the 16th healing was complete.

As I pointed out in vol. i of these 'Reports,' there is a great tendency in tertiary syphilis to the occurrence of ulceration in the posterior wall of the pharynx owing to the formation and subsequent sloughing of gummata, and I have been struck with the frequency with which these lesions have occurred in individuals in whom, as in the case under consideration, it was impossible to get any history of secondary symptoms. The moral to be drawn from these remarks is that ulceration in the posterior wall of the pharynx should be treated with iodide of potassium in all cases. If, then, the ulcer heals well and good, if not, and the exceptions are infinitely rare, some other cause must be found for the disease. Allied to these cases are examples of late hereditary syphilis. I see no reason why persons should not have hereditary syphilis in a mild form in infancy and so escape with but little evidence of hereditary taint and yet get uleration in the throat and elsewhere about the period of puberty.

These cases seem to be comparable to those cases of acquired syphilis in which there is an entire absence of the symptoms usually associated with the secondary stage. A good example of the kind was under my care in the Out-Patient Department last year. The patient was sent to the Royal College of Surgeons, and made use of for the examination for the Fellowship, and I understand that very different diagnoses were made. Fifteen grains of iodide of potassium were given three times a day, and the ulceration rapidly healed.

In two patients presenting marked symptoms of hereditary

syphilis the larynx showed signs of old mischief; in one the epiglottis was blunt and irregularly thickened and the arytenoids were swollen, in the other the epiglottis was thickened and overhanging.

A man æt. 53 came complaining of a discharge from the nose. On examination I found that there was complete adhesion of the soft palate to the posterior wall of the pharynx, thus cutting off any communication between the mouth and naso-pharyngeal space, so that the discharge from the nostrils must perforce run down anteriorly. As the adhesion was of cicatricial tissue, there did not appear to be much hope of being able to restore the passage between mouth and naso-pharynx, and as the patient was not particularly inconvenienced, nothing was done. The adhesion had clearly taken place as the result of syphilitic ulceration. This case should be a warning to prevent a similar mishap in a case of the same kind.

Neurotic Affections.

Under this head I would draw attention to some cases, all cccurring in women, in which, apart from any evidence of organic disease, the patients have had trouble in connection with their larynges.

E. O—, a widow æt. 47, has been under my observation for the past two years, and yet I am no better able to give a definite opinion as to the nature of the case than at the commencement of her attendance. She came complaining of loss of voice and difficulty of breathing. On making a laryngoscopic examination, the cords were found to be slightly congested, and appeared to act spasmodically, that is to say, at attempted inspiration the cords would often adduct, so as to form a narrower glottis at inspiration than at expiration, consequently inspiration was more or less stridulous. The only other abnormal condition to be found in the patient was a thick state of the neck, but inasmuch as this has not altered during the two years she has been under observation, it is possible that it may be her normal state; careful examination of the chest has failed to reveal anything except that, as might be expected, the respiratory murmur was of a some-

what stridulous character. The only suggestion I can offer is that this case is an example of neuromimesis. Up to the present no medicinal treatment has had any effect, but as the patient's general health seems good, I am not disposed to advocate any very heroic treatment. If she could afford it, I should place more reliance on a sea voyage than anything else, knowing the excellent results which attend this kind of change in the so-called hysterical cough, which I am disposed to consider an allied neurosis. These cases of harsh, barking cough, occurring without any evidence of organic affection, are generally met with in young females, and the condition is one which apparently resists all medicinal treatment. I have tried a large variety of drugs without success, applied blisters to the spine, and used the galvano-cautery to the pharynx, but equally unsuccessfully. Unfortunately, the plan of treatment which is most hopeful, viz. a sea voyage, is one which is not within the power of hospital patients to adopt.

In regard to functional aphonia, it would be wise to warn the young laryngoscopist that loss of tension in the vocal cords, especially if this be more marked on one side than the other, should lead to a careful examination of the lungs. To say that a patient is merely hysterical and then to discover afterwards that there is incipient mischief at the apex of one lung, is to make a very grave mistake, and one likely to be fraught with serious consequences to the patient. I have seen several cases in which the first evidence of departure from health consisted in a loss of voice due to paresis of the adductors, and in which later on signs of phthisis developed. From whatever cause arising, cases of functional aphonia should be carefully watched until the voice is restored and the general health good.

Herpes of the Mouth.

Two cases of an herpetic eruption in the mouth, a somewhat rare condition, came under my notice among the patients in the Throat Department.

In one the patient was a man æt. 27, an omnibus conductor, and consequently much exposed to changes of temperature. He attended on September 26th, complaining of a sore mouth. On examination,

numerous vesicles were seen on lips, tongue, and pharynx, and an irregular herpetic eruption was noticed on the left arm and on both hands. The patient stated that at the commencement of his illness, a week before he attended at the hospital, he had had shivering. On October 5th an erysipelatous blush was noticed on the forehead.

The other patient was a married woman, æt. 25, who came on April 14th, complaining of a sore mouth and throat of three days' duration. The whole pharynx was congested and several vesicles were to be seen on the hard and soft palate and uvula. She had had no rigors. A week later the vesicles were all healed.

These cases follow the usual rule of occurring either in the spring or autumn. In the first case the diagnosis was very easy on account of the presence of an herpetic eruption on the external surface of the body, and in the second case I saw the patient when the eruption was still distinctly vesicular, but if a patient be seen for the first time at a more advanced period of the disease the differential diagnosis from diphtheria might be a matter of difficulty.

As regards treatment, I ordered chlorate of potassium, and the tincture of the perchloride of iron. A gargle of the glycerine of borax or of boric acid will be found useful.

Acute Parenchymatous Tonsillitis.

I have elsewhere* drawn attention to the good result following the application of a 20 per cent. solution of the hydrochlorate of cocain in cases of quinsy. If applied in suitable cases at an early stage of the disease the inflammatory process is arrested, and suppuration does not occur. Even if the application is delayed until suppuration has occurred, the relief from pain and the ability to swallow food are the advantages to be claimed for this method of procedure. In one of the cases on which my paper at the Clinical Society was founded I am distinctly of opinion that the cocain rescued the patient from what appeared a most threatening condition.

* 'Trans. of Clin. Soc.,' vol. xxi, p. 234.

The Lingual Tonsil.

Of late years attention has been prominently directed to the masses of adenoid tissue found in the throat. Formerly the title of tonsil was limited to the circumscribed masses of adenoid tissue seated in the fauces, but as other masses have received the name of tonsil, these are now called the faucial tonsils in contradistinction to the pharyngeal tonsil, a collection of adenoid tissue met with in the vault of the pharynx growing from the mucous membrane covering the lower surface of the basilar process of the occipital bone, and quite recently the adenoid tissue found at the root of the tongue has received the designation of lingual tonsil.

The evils produced by hypertrophy of the pharyngeal tonsil, or adenoid vegetations in the naso-pharynx, as the disease is now usually called, have received much attention, especially during the last ten years, but it was only in the autumn of last year that Dr. McBride gave the first clear account in this country of the symptoms produced by hypertrophy of the lingual tonsil. I had no sooner read his article than I discovered among my out-patients some examples of this condition, and in two women there was marked increase in the adenoid tissue amounting to a veritable hypertrophy. The symptoms complained of were chiefly the feeling of a foreign body in the throat, constant tickling and retching and pain in the throat. After the application of a 20 per cent. solution of cocain, I applied the galvano-cautery on several occasions very freely to the hypertrophied tissue with the result of causing great diminution in each, and relief of the symptoms. Cases of this sort show the necessity of a careful examination and the need for the exercise of a little charity. I have no doubt that in the past many a woman complaining of uncomfortable sensations in the throat has been dismissed as hysterical, when in truth there was an objective cause for the symptoms had the medical men only been sufficiently skilled to detect it.

Epistaxis.

It is too much the habit to treat all cases of epistaxis in a routine manner; very few practitioners seem to think it neces-

sary to endeavour to discover the cause, and even those who are on the look out for the constitutional conditions underlying this symptom often altogether ignore the local mischief. I am quite ready to admit that in a large number of cases of epistaxis an examination of the nose will yield but little information, and I am also ready to allow that for the most part bleeding from the nose, so far from being harmful, is distinctly beneficial, by relieving plethora and even averting an attack of apoplexy; still there are cases in which patients may be much reduced by constant epistaxis, and in these instances appropriate local treatment may at once succeed in arresting the flow of blood. The usual form of local treatment in epistaxis is to plug the nostrils, but I cannot regard this method of treatment as free from danger. I have seen several cases and heard of more, in which symptoms of a septic nature have followed upon plugging the posterior nares, even where care has been taken not to allow the plugs to remain in too long. Before plugging the nares I would advise the thorough and systematic examination of the nares by means of the nasal speculum and rhinoscope, and if the bleeding point can be detected, this can be treated by astringent applications. I have recently heard of a very severe case of epistaxis in which the hæmorrhage was at once arrested by the application of a red-hot wire to a bleeding point in the septum. In two of the cases of epistaxis which came under observation in the Throat Department last year, I found ulcerated patches in the left middle turbinated bone which I regarded as the source of the bleeding.

Atrophic Rhinitis.

If there was one organ more than another which was neglected in the past this was certainly the nose. Doubtless cases of nasal polypi were attended to after a fashion, and patients with a foul-smelling discharge were ordered to syringe out their nostrils with some astringent lotion, and here the surgeon seemed to consider that his duty ended. During my student days I never remember my attention being directed to any affection of the nose except syphilitic disease, and on

turning to Erichsen's 'Surgery,'* a book for which I am exceedingly grateful, as from its study I first gained an insight into the science and art of surgery, I find included under the head of "Diseases of the Nose" only epistaxis, chronic thickening of the Schneiderian membrane, polypi, malignant tumours, and calculi, together with a few lines on external diseases such as lipoma, lupus, and epithelial cancer. Only four pages are devoted to the subject of nasal diseases, and there are no directions given as to the method of investigating the interior of the nose. When one of the ablest surgeons of the day was able to give so little information in a book which was the most popular text-book of the time, small wonder is it that nose affections were pretty generally disregarded. Now, however, thanks to the exertions of enthusiastic specialists, all this is altered for the better, and my only fear is that too much attention is being devoted to the nose, and that the general condition of the body is somewhat neglected. One diseased state of the nose, the knowledge of which is of quite recent origin, is that which forms the title of this section. Among the minor ailments to which mankind is prone—and by minor ailments I mean those which do not endanger life—I know of none which causes more discomfort and misery to the patient than atrophic rhinitis. First and foremost the stench which proceeds from the nose in a bad case of this disease is something quite indescribable and *sui generis*. Then—perhaps fortunately for himself—the patient loses the sense of smell; the too free passage allows air to pass into larynx and lungs without being filtered, warmed, and moistened, so that a dry and granular condition of the pharynx, chronic laryngeal and bronchial catarrh are frequently found associated with this condition. It also gives rise to many reflex symptoms, such as paræsthesiæ in the throat and larynx, headache, neuralgia, giddiness, &c.

On examining the nose with the nasal speculum—and for this purpose I prefer Duplay's speculum to any other—it will be found that the cavity is unduly capacious; the mucous membrane is usually covered with greyish crusts of inspissated mucus, which stink abominably, and on removal of these the mucous membrane is found excoriated or abraded in places,

* Third edition.

but it is unusual to find any well-marked ulceration. A part of the nostril which is very frequently excoriated is the covering of the middle turbinated. This seems especially prone to be thus affected, and in some cases, except for a rather more capacious nostril than ordinary, it is the only notable alteration to be detected. On using the rhinoscope a similar condition of atrophy can be recognised in the posterior nares, and in some cases the atrophy has gone on to such an extent that it is possible to see with ease right through the nostril. Almost invariably the pharynx will be found dry and frequently covered with adherent mucus, which in towns is usually black from soot and other impurities in the air, which have passed through the capacious nostrils without being arrested as is normally the case. It may generally be taken for granted that a dry glazed state of the pharynx with adherent mucus points to atrophic rhinitis.

The etiology of this condition is obscure; up to the present I have only been able to satisfy myself as to the existence of one etiological factor, and that is anæmia. I have been much struck by the number of anæmic young women whom I have found suffering from this condition, and I cannot help associating with it the fact of the frequency of gastric ulcer in the same kind of patients. This points to a special vulnerability of the mucous membrane in anæmia.

Treatment.—In cases of atrophic rhinitis it is very important to endeavour to find out whether there is any constitutional affection underlying the local disease. As I have already stated, anæmia is the only condition which I have found at all commonly associated with atrophic rhinitis. Where anæmia is present I have seen good effects from the combination of iron and arsenic, my usual prescription being the following:

℞ Liq. Arsenicalis, ♏iij;
Liq. Ferri dialysati, ♏x;
Glycerini, ♏xv;
Aq. Chloroformi ad ʒij. Misce.
Two teaspoonfuls in water three times a day after meals.

Some patients are benefited by the Hst. Ferri Aperiens of the Hospital Pharmacopœia. But after all it is on local treatment that our chief reliance must be placed. The first point to be insisted on is the thorough cleansing of the affected

parts. I am convinced that one of the causes favouring the progress of the disease is the adhesion of dry crusts to the mucous membrane. These crusts interfere with the circulation through the part, and prevent the separation of the mucous cells which is constantly going on in healthy mucous membrane. I have no doubt in my own mind that perforation of the septum can be produced by the irritation kept up by adherent crusts of inspissated mucus. The only efficient way of cleansing the nostrils is by the use of the hand-ball spray apparatus. It is desirable to have a second ball to the apparatus so as to ensure a continuous stream, and it is important that the spray should be ejected with a certain amount of force, otherwise the more remote recesses will not be reached. If there is not much smell attending the case a simple alkaline solution may be used. A combination of common salt, borax, and bicarbonate of sodium acts very well; the addition of a little sugar is useful to increase the specific gravity of the fluid. The fluid should be warm, and should contain about ten grains of saline matter to the ounce and five of sugar. If there be any offensive smell ten to fifteen minims of the glycerine of carbolic acid may be added to each ounce of the solution, or the sugar may be omitted, and ten to fifteen minims of the solution of the permanganate of potassium added. At first it may be necessary to use the spray two or three times a day, but by its regular and careful employment it will soon be found that the necessity for its use becomes less frequent. After the nostrils have been freed from adherent mucus, astringent or other applications may be made. I have found the insufflation of iodol beneficial; it seems to have all the good effects of iodoform without its penetrating odour, or weak solutions of sulphate of zinc or alum may be employed in the form of spray. In some obstinate cases Gottstein's tampon seems to give relief when other measures have failed.

Polypi.

All the cases of polypi during the past year have been of the ordinary mucous variety and have presented no unusual features. They have all been treated in the same manner,

viz. by the use of the galvano-caustic loop. Steel piano wire No. 6 is employed and answers admirably. It is sufficiently flexible to be introduced into the nose without difficulty, and yet sufficiently firm to be passed round the polyp. The galvanic current should only be strong enough to heat the wire to dull red heat; too great heat destroys the wire and makes the operation very tedious, as passing the wire along the handle and fixing it takes up a considerable amount of time. The introduction of cocain has enabled us to burn down the pedicles of polypi very thoroughly, nevertheless it must be confessed that though it may be very easy to clear out the nostrils of every trace of polypus at the time, the tendency to recurrence is so great that the after-treatment is even of more importance than the mere removal of the polypi. In patients who stand cocain well the free application of the galvano-cautery to the stumps yields very good results. In some recent cases in which cocain has caused unpleasant symptoms I have been very well satisfied with the effect obtained by painting the Acidum Carbolicum Liquefactum B.P. over the base of the growth. The anæsthetic property of carbolic acid prevents even this highly concentrated preparation causing more than momentary pain. On the other hand, chromic acid has not come up to my expectations; it is quite as painful, if not more painful than the galvano-cautery and is not nearly so manageable. In looking over the cases of nasal polypi that I have had under treatment, I have been much struck by the number of times that they have been complicated with asthma. One is astonished that this combination should have remained so long unnoticed, and that attention should only have been directed to it in quite recent times. If the asthma has existed for many years, the removal of the polypi, though it usually lessens the frequency of the asthmatic paroxysms, does not cure the disease; it seems as though the habit being once acquired cannot be completely eradicated, notwithstanding that the nose has been freed from all trace of polypi.

REPORT

OF THE

POST-MORTEM EXAMINATIONS MADE IN 1887.

WITH SHORT NOTES AND REMARKS.

By Dr. HEBB.

Cases recorded:			
Males		112	
Females		81	
			193
General diseases:			
Scarlet fever		2	
Enteric fever		2	
Diphtheria		14	
Pyæmia		3	
Tuberculosis		7	
Rickets		1	
Purpura		1	
			30
Diseases of the nervous system:			
Meningitis		5	
Softening		3	
Hæmorrhage		3	
			11
Diseases of the circulatory system:			
Endocarditis		16	
Aortic	1		
Aortic and mitral	6		
Mitral	5		
Mitral and tricuspid	4		
Arteritis		2	
Aneurysm		4	
Fatty heart		4	
Congenital malformation of heart		1	
			27

Diseases of the respiratory system:		
Acute bronchitis	4	
Chronic bronchitis and emphysema	11	
Acute pleuritis	1	
Empyema	1	
Pneumonia, lobar	12	
„ lobular	6	
Phthisis	18	
Cancer of lung	1	
Œdema of larynx	1	
		55
Diseases of the digestive system:		
Ulcerative pharyngitis	2	
Ulcer of stomach	1	
Ulceration of appendix cæci	2	
Enteritis	1	
Diarrhœa	7	
Cancer of œsophagus	3	
„ of duodenum	1	
„ of cæcum	1	
„ of rectum	2	
„ of liver	2	
Cirrhosis	2	
Hepatitis	1	
Hernia	3	
Intussusception	2	
Peritonitis	4	
		34
Diseases of the lymphatic system:		
Cancer of the mediastinal glands		1
Diseases of the thyroid body:		
Cancer		1
Diseases of the suprarenal bodies:		
Addison's disease		1
Diseases of the urinary system:		
Chronic renal	8	
Calculus in pelvis	1	
„ in ureter	1	
Abscess of kidney	1	
Cancer of bladder	1	
		12
Diseases of the generative system:		
Ovarian	4	
Pelvic cellulitis	1	
Cancer of uterus	1	
		6
Diseases of the organs of locomotion:		
Morbus coxæ	1	
Caries of spine	2	
		3

Diseases of the skin:		
Rodent ulcer		1
Injuries:		
Wound of scalp	1	
„ of knee-joint	1	
Fracture of skull	3	
„ of spine	1	
„ of leg, both bones	1	
„ of ribs	1	
Scald	1	
Burn	1	
Drowning	1	
		11

Short Notes on some of the foregoing Cases. The Numbers refer to the folios in P.M. Book, vol. iv.

General Diseases.

Enteric fever.—(241) Perforation and peritonitis. (247) Recent vegetations on tricuspid and mitral.

Scarlet fever.—(179) Acute nephritis, faucial ulceration, pneumonia. (244) Peeling, suppurative pleuritis, ascites, acute nephritis.

Diphtheria.—(39) Naso-pharyngeal only: acute nephritis. (50) (109) (112) (206) (212) (249) Membrane from fauces to larynx. (76) (96) (181) (185) (237) (250) Membrane from larynx only. (226) Membrane disappeared, patient dying of "diphtheritic" pneumonia. Tracheotomy was performed in nine cases.

Pyæmia.—(53) Puerperal. (91) Puerperal, died fifteen weeks after parturition. Hard vegetation, as large as walnut on tricuspid. Empyema. (72) After supra-pubic lithotomy.

Tuberculosis.—(94) Meningitis and pericarditis. (128) Pericarditis and peritonitis. (71) (172) Meningitis and peritonitis. (216) Meningitis.

Purpura.—(55) Face much swollen, of a dark-red purple colour; spots on trunk and limbs. Recent vegetations on tricuspid and mitral.

Nervous System.

Meningitis.—(58) Meningitis with yellow softening of left temporo-sphenoidal lobe in child of nine months old. (68) and (104) After otitis.

Softening.—(63) Aortic disease: chronic renal. (78) Adherent pericardium; thrombosis of basilar artery. (257) Chronic endarteritis, contracted kidneys.

Hæmorrhage.—(106) (213) (225) All females; in all there was hæmorrhage into the pons, in one case contracted kidneys.

Circulatory System.

Endocarditis.—(21) Mitral: peritonitis, large white kidney, dermoid cyst of ovary. (27) Mitral, adherent pericardium, meningitis. Left iliac vein thrombosed. (186) (193) (210) Mitral and tricuspid stenosis. (176) Recent ulcerative endocarditis affecting tricuspid and mitral; acute aneurysm and rupture of the left gastro-epiploic artery.

Aneurysm.—(107) Of cœliac axis. (139) (143) (148) Of aorta. (143) Aneurysm just above aortic valves, and passing down beneath epicardium over right ventricle.

Congenital malformation of heart.—(54) Defect of septum, and absence of pulmonary artery.

Respiratory System.

Œdema of larynx.—(66) Occurred in a male with large gouty deposits in hands and ears, the feet being scarcely affected.

Chronic bronchitis.—(215) Amputation for epithelioma of foot. (252) Simple fibrous stricture of colon. (23) Tumour of the dura mater. (102) Caseation of pituitary body.

Pneumonia, lobar.—(31) Arachnoid hæmorrhage and meningitis. (114) Pericarditis. (156) Mitral stenosis with recent vegetations. (188) Large quantity of yellow lymph in both pleural sacs; both tunicæ vaginales distended with a similar fluid. (209) Recent vegetations on mitral; meningitis. (236) Gangrene of lung, death from hæmorrhage.

Phthisis.—(36) Both middle and internal ears devoid of their soft parts. Both upper lobes of lungs were large, hard,

and of a dark olive green colour. On microscopical examination they showed fibroid tubercles. (45) Tuberculosis of testicle. (73) (201) Laryngeal and intestinal ulceration. (77) (89) (118) Intestinal ulceration. (151) Stomach, liver, spleen, kidneys gave amyloid reaction with iodine. (200) Large white kidneys, peritonitis, spleen amyloid.

Digestive System.

Ulcerative pharyngitis.—(38) (190) Both the result of scarlet fever.

Hernia.—(60) (137) Operation for strangulation; (101) for radical cure.

Intussusception.—(194) Sarcomatous tumour ($2\frac{1}{2} \times \frac{1}{4}$ inch) just above ileo-cæcal valve; intussusception, just below splenic flexure, involved the intestine from the lower part of ileum. Both ovaries were the size of turkey's eggs, and showed the same histological appearances as the tumour above the valve.

Ulceration of appendix cæci.—(46) Due to impaction of fæcal calculoid, peritonitis. (131) Peritonitis.

Gastric ulcer.—(246) Male, three ulcers in lesser curvature close to pylorus.

Cancer of rectum.—(177) Colloid; in a boy aged eleven. (220) Epithelioma, rectum removed by operation, suppurative pelvic cellulitis; peritonitis.

Cancer of liver.—(62) Adherent pericardium.—(80) Ulcer of stomach; erosion of a vein, death from hæmatemesis.

Hepatitis.—(52) Syphilitic; in addition to the interstitial hepatitis, many gummata were found on microscopical examination.

Peritonitis.—(228) Rupture of ovarian cyst; pericarditis.

Thyroid Body.

Cancer.—(120) Cancer of thyroid isthmus with secondary deposits in vertebral column producing paraplegia, in lungs and kidneys. Microscopical examination of the secondary growth shows the type to be that of the normal thyroid.

Urinary System.

Chronic renal.—(239) Double bubonocele; right hydrocele; left tunica vaginalis adherent. Enlarged prostate. Both kidneys the seat of cysts, some "colloid," average size $\frac{1}{3}$—$\frac{1}{2}$ inch in diameter.

Cancer of bladder.—(221) Ileum united to bladder; fæces discharging through bladder; secondary deposits in brain, lungs, liver and spleen.

Generative System.

Ovary.—(110) Ovariotomy, mitral stenosis; stricture of colon; atrophy of right kidney. Left kidney large, white. Right ovary cystic. (81) (207) (235) Ovariotomy. Cystic with colloid contents. (119) Ovariotomy. Both ovaries removed. Both solid and fleshy; on microscopical examination, sarcomata undergoing myxomatous degeneration in places.

Organs of Locomotion.

Caries of spine.—(170) Phthisis; psoas abscess; caseation of both suprarenal bodies.

Injuries.

Wound of knee-joint.—(184) Occurred in a man suffering from glycosuria.

Fracture of skull.—(83) (191) (195) Of base with hæmorrhage into brain.

Fracture of spine.—(135) Pelvis also fractured; rupture of bladder.

Drowning.—(199) Male; chronic and recent valvulitis (aortic).

Fracture of leg, both bones.—(153) Compound comminuted.

Remarks.—From the foregoing notes it will be at once apparent that any bald statement such as is given in the above formal tabulation or in the Registrar-General's Report is not only inconclusive but misleading. Take, for example, the case of a man aged 69, who is "certified" as chronic bronchitis. He was admitted for epithelioma of the foot; ampu-

tation was performed. I find, post mortem, chronic bronchitis, emphysema, ossified costal cartilages, and a fatty, flabby heart. What was the cause of death, or rather what ought to be certified as the cause,—the epithelioma, the operation, the condition of the heart or of the lungs, or old age, or what?

Then again the dogmatism of statistics makes us lose sight of certain relations, relations of the greatest importance; for example, I have stated that there were sixteen deaths from endocarditis. This not only fails to show the interesting complications, other than circulatory, in these particular cases, but passes over the fact that valvulitis may be present as a part or parcel of some other disease, being indeed a symptom or factor of the malady, *e. g.* purpura (55), where there were vegetations on the tricuspid and mitral, enteric fever (247), vegetations on tricuspid and mitral, pyæmia (91), large vegetation on tricuspid, with numerous small ones on the wall of right auricle. These bring up the total number of cases in which affection of the tricuspid was found to seven. Moreover, recent vegetations were found on the mitral in (114) (209), classed under pneumonia, and in the case of drowning (199). To these I might add several others, but I pass on to meningitis, of which I have enumerated five cases. But these were not all, for I find that meningitis occurred in seven other instances. Two of these were in lobar pneumonia (31) (209), one in a case of cardiac (27), and four were tubercular. Consequently the number of cases in which meningitis occurred was twelve.

Again, with regard to pneumonia (lobar) I think my notes indicate that the usual indifference shown to this disease is not warranted. "Oh yes! case of pneumonia. Temperature 104°. Right lower lobe consolidated. Well in a week or so. You see, gentlemen, the dulness of this lobe can be accurately mapped out by percussion, and if you listen with the stethoscope you hear tubular breathing, and a few frictions." Fortunate patient! But how about such cases as (31) where there were found post mortem arachnoid hæmorrhage and meningitis; (185) where, in addition to a pneumonia, there was a large quantity of yellow clotted lymph in both pleural sacs, and a similar condition of things in both tunicæ vaginales; (209), where there were meningitis and recent vegetations on

the mitral; and (236) where there was gangrene of the lung, the patient dying of hæmorrhage from one of the opened vessels? Are these complications to be regarded as due to an intensification of the disease, as the culminating point in the disaster, as indicating the intercurrence of another disorder, or is the complication the real malady and the pneumonia the complication? On finding a whole lobe of a lung consolidated, accompanied by recent pleuritis, it would seem satisfactory enough to certify under diseases of the respiratory system, but the full record of a case, a record which embraces the clinical and pathological aspects, will freqnently give rise to doubts.

But returning to the subject of statistics I desire to point out that a case (91) I have classed under pyæmia might with great fairness be included under the head of chronic endocarditis or empyema, and that the case of drowning (199) might also be found under the head of endocarditis. And so I might go on, showing how any case could be classed under several heads, and how consequently, if six different people were making up statistics from the same number of cases, in the result there would be six different tables. I dare say that many of the discrepancies of our nosology are due to the indecision as to whether the cases are to be regarded from a clinical or a pathological standpoint. Thus take a case of tuberculosis where there is meningitis. This is habitually called tubercular meningitis from its clinical aspect, and although it is sufficiently satisfactory, yet, considering the number of deaths from tuberculosis, the meningitis can at most only be considered an accidental complication. Hence the value given to a symptom or a lesion affecting a single organ or part may determine the position given to any case in the table of statistics, *e. g.* if called tubercular meningitis, then the case is a nervous affection; if tuberculosis it is a general disease, and so on. Another instance is found under diarrhœa, to which I have have been compelled to assign seven cases. This term, the last resource of the destitute, had to be adopted because nothing sufficiently adequate to account for death was found post mortem. Analogous examples might be multiplied almost without end, but as I have no desire to proceed to extremities I will, in conclusion,

allude to cases in which some surgical operation has been performed, citing for this purpose the four cases of ovarian disease. In these four cases one or both ovaries had been removed, death taking place from causes more or less directly connected with the operation.

Now, a logico-mathematically-minded person, who feels assured that two and two make four, would necessarily arrive at the conclusion that it was the operation. This conclusion would be correct in logic or mathematics, but parity of reasoning would not necessarily lead to a similar result in medicine, as herein two and two rarely make four. And so, all we can say is that the conclusion that the patient died as the direct result of the operation may be correct, and thus all ends well as far as the certifier and the certificate are concerned. But it seems to me that the first object of statistics should be to point out what is either the principal or the nearest cause of death, or both, and as surgical interference must necessarily stand between the principal and the proximate cause there is no occasion for putting down the name of some surgical operation as the cause. Decapitation for high treason, &c., might be quoted against this view, but I hope this argument will not be pressed too strongly, as slashing operations have fallen into desuetude for a good many years.

The immorality of statistics lies in the fact that unless capable of explaining themselves some way or other, they become a source of weakness, for they may be made to show anything or nothing.

Post-mortem Record of Fourteen Cases in which the Endocardium of the Right Side was found to be inflamed.

By Dr. Hebb.

Case 1 (vol. iii, p. 66).—Male, æt. 19, admitted December 1st, 1884, under Mr. Cowell, died February 5th, 1885.

Post-mortem (twenty-eight hours after death).—Body emaciated, yellow tinge of skin. Right arm in the condition of phlegmonous erysipelas. On opening the thorax it was found that the pericardial sac occupied nearly the whole front of the chest, and extended upwards as high as the level of the clavicle. It measures seven inches vertically

and nine inches transversely. It contains about half a gallon of greenish-yellow fluid. There is no lymph on the epicardium or pericardium. The heart is free in the centre of the sac, and its apex points directly outwards. The epicardium is much thickened. Both auricles are much distended, and their walls extremely thick. The ventricles are, on the other hand, extremely small. Both auriculo-ventricular valves are in the condition of extreme stenosis. The tricuspid is thin and fibrous, the mitral thick and the seat of calcareous plates. The aortic orifice is also stenosed, owing to a thickening of the ventricular aspect of all the cusps. Pleural sacs contain a large quantity of fluid. The pleural surfaces are quite smooth and slimy. The lungs are emphysematous, and are in the condition of extreme engorgement. The liver is typically "cardiac." Spleen large and firm. Kidneys large, tough, and congested. The pancreas is large and extremely hard, cutting almost like fibrous tissue.

CASE 2 (vol. iii, p. 135).—Female, æt. 32, admitted April 27th under Dr. Donkin, died June 18th, 1885.

Post-mortem (eighteen hours after death).—Body fairly well nourished; slight jaundice; œdema of lower extremities. Serous cavities full of blood-stained fluid. Chronic adhesive pleuritis of both sides. Lungs in the condition of red induration, and in the left are several large infarctions. Commencing ossification of the costal cartilages. Pericardium *nil.* Heart 14 oz. Both auricles are enlarged, and their walls hypertrophied. There is stenosis of the tricuspid and mitral valves, the orifice of the latter not admitting the tip of the little finger. The tricuspid measures just three inches. The cusps of all four valves are bestudded with recent delicate vegetations.

The liver, spleen, and kidneys are typically "cardiac."

CASE 3 (vol. iii, p. 335).—Male, æt. 11, admitted March 18th under Dr. Sturges, died June 2nd, 1886.

Post-mortem (twenty-three hours after death).—Body extremely emaciated; no marks. Teeth carious. No swollen cervical or inguinal glands; no ulceration of gums. There is no blood-staining of the tissues, nor is there any liquidity or greasiness (free fat) noticeable in the blood, which in the heart and elsewhere shows a firm clotting. Brain 47 oz. Much subarachnoid fluid. Collection of greenish viscid pus in front of pons and in inferior cerebellar fissure. Three abscesses in left hemisphere, first at extreme end of white matter in frontal region, the other two lie close together, one in corpus striatum, the second in optic thalamus. All three are about the size of large peas. The lateral ventricles, which are much dilated, contain a large quantity of turbid fluid, and their walls are eroded throughout. Cord: excess of fluid, softening of posterior columns in dorsal region, no pus. Larynx, fauces, and trachea *nil.* There is suppurative pleuritis of both sides, with very firm adhesions over the right upper lobe. There is yellow lymph and pus in both sacs. Right upper lobe is hardish, of a

dark red colour, with a few large cavities filled with a thick, viscid, stringy pus. In the left upper lobe are also a few cavities, older apparently than those on the right, and containing a similar secretion. Both lower lobes, in addition to cavities with contents similar to the foregoing, are consolidated, grey in colour, soft, and easily broken down on pressure. The mediastinal glands are enlarged, and some are suppurating. Heart: Between the inferior and superior cava openings, into the right auricle, is a firm yellow vegetation about the size of a sixpence. The endocardium on its surface has not ulcerated. The contents of the vegetation are soft, almost diffluent. It has not the appearance of ulcerative endocarditis, but rather of a softish yellow excrescence, and it is not surrounded by any trace of inflammation. The rest of the heart and pericardium are perfectly normal. In the right ventricle there is a large firm white clot. Liver 27 oz. By its upper surface it is firmly adherent to the diaphragm. On incision, the upper part of the right lobe was found to be the seat of several areas of a yellowish-white colour. These patches consist of a series of small intercommunicating cavities, filled with a gritty material. At the extreme upper part, beneath the diaphragm, is a spheroidal cavity about the size of a small walnut. Its contents are a greenish viscid pus. The rest of the right lobe was intensely congested. The left lobe is quite normal in appearance. The stomach and intestines are quite normal, with the exception of the vermiform appendix, about the centre of which is a circular ulcer with sharp, punched-out edges. Its base is formed of peritoneum only. The contents of the appendix are fluid. There was nothing noteworthy in the rest of the viscera.

CASE 4 (vol. iii, p. 355).—Female, æt. 40, admitted July 12th under Dr. Allchin, died July 16th, 1886.

Post-mortem (sixteen hours after death).—Body emaciated; slight general jaundice. Excess of fluid in all the serous sacs. Heart 12 oz. Auricles very large. Right auriculo-ventricular orifice just admits the tip of forefinger. The cusps are adherent. Much laminated clot in the right auricle, in the centre of which is a free spherical "polypus" an inch in diameter. The mitral aperture is reduced to a mere chink, the cusps are adherent, and form a hard semi-cartilaginous ring in which are some calcareous plates. Ventricles small. Aortic cusps are a little thick and opaque, but the valve is competent. In the right lung is a recent hæmorrhagic infarct. Spleen 3½ oz., hard. Kidneys 4½ and 5 oz., surface coarsely granular; cortex diminished; consistence firm, "cardiac." Liver "cardiac." Stomach adherent to upper surface of left lobe of liver and to pancreas. Close to the pylorus on the greater curvature is an "old gastric ulcer," nearly circular in shape and measuring nine inches in circumference. The margin is rounded and raised, and is adherent to pancreas and liver, which form the floor of the ulcer. The ulcer appears to be quite quiescent.

CASE 5 (vol. iv, p. 55).—Male, æt. 28. Admitted February 12th under Dr. Donkin, died February 17th, 1887.

Post-mortem (eighteen hours after death).—Body somewhat emaciated. Œdema of both hands and both feet. The face is covered as by a mask, with a slightly raised purpuric rash. The lips are much swollen, tense, and purple, and the gums a little ulcerated. Over the rest of the body are numerous small circular patches of a purple colour; these are most numerous on the hands and feet. On incision, the purpuric spots and patches were found to extend as deeply as the subcutaneous tissue. Examination of joints gave negative results. Brain 45 oz., membranes and nervous tissue *nil.* Chest barrel-shaped. Larynx *nil.* Lungs emphysematous and pallid. Chronic pleuritis of the right side. Bronchitis. Heart 11 oz. On the mitral is a complete ring of recent vegetations, and on the tricuspid also there is a quantity of similar growths. There are a few subendocardial petechiæ and extravasations in to the cardiac tissue. Aortic valves *nil.* Pericardium *nil.* Liver 49 oz., firm and of a dark purple colour. Spleen 4 oz., firm and of a dark purple colour. Kidneys all 5 oz.; resemble "cardiac" kidneys in their appearance and consistence. Walls of stomach thin; some catarrh; a few petechiæ at cardiac end only.

CASE 6 (vol. iv, p. 91).—Female, æt. 22, admitted February 19th under Dr. Sturges, died April 17th, 1887.

Post-mortem (twenty-six hours after death).—Rigor mortis persistent. Heart 9 oz. Depending from the posterior cusp of the tricuspid valve is a large conical vegetation of a yellowish-white colour and more than an inch long. It is very hard. The inner surface of the appendix of the right auricle is studded with little yellowish-white nodules of a similar character to the vegetations on the cusp, but they are, perhaps, even somewhat firmer. The left side of the heart is quite normal. Liver 69 oz., "nutmeg." Spleen 16 oz., very hard on section. Kidneys 5¼ and 6¾ oz., pale and rather hard. Lungs: There is an encysted empyema at the side of the lower lobe of the left lung, the floor being formed by the diaphragm and the sides by the thickened pleura. It contains about two ounces of pus, and communicates with the outside by an incision in the eighth intercostal space. The rest of the lung is adherent to the wall. Bronchitis. None of the viscera gave the "amyloid" reaction with iodine.

CASE 7 (vol. iv, p. 176).—Female, æt. 28, admitted June 28th under Dr. Donkin, died September 3rd, 1887.

Post-mortem (twenty-one hours after death).—Rigor mortis passing off. Body very pallid. On opening the abdomen the cavity was found to be filled with black fluid blood and clots which weighed 30 oz. The blood was found to have escaped from a ruptured aneurysm of the left gastro-epiploic artery. The aneurysm was about the size of a filbert, and was situated over the upper part of the great curvature close to the spleen. It was lined by laminated clot, and the recent rupture was on its posterior wall so that the blood escaped into the bag of the omentum, and passed thence through the foramen of Winslow into the

abdominal cavity. The heart weighed 16 oz. The mitral valve was covered with fungous-looking vegetations, and its posterior cusp perforated. On the tricuspid valve was a vegetation about the size of a split pea. The muscular tissue was soft and the pericardium was the seat of an old fibrous patch. Kidneys 8¾ and 9¾ oz.; cortex large veins full, colour dark. Liver 58 oz., "nutmeg." Spleen 20 oz. Lungs. Bronchitis.

CASE 8 (vol. iv, p. 186).—Female, æt. 23, admitted under Dr. Allchin, died September 24th, 1887.

Post-mortem (fifty-one hours after death).—Body well nourished. Jaundice of head, neck, and upper part of thorax. No œdema of legs. Large excess of clear fluid in the peritoneal cavity. Brain 49 oz., membranes and nervous tissue normal. Lungs "cardiac," œdematous, but no infarction. Heart 17 oz.; there is great dilatation of both auricles; the mitral and tricuspid valves are stenosed from thickening and adhesion of the cusps, and on the mitral is a vegetation about the size of a pea. The aortic and pulmonary valves are normal. Aorta normal. Liver 72 oz., "nutmeg." Spleen 10 oz., "cardiac." Kidneys 4 and 5½ oz., "cardiac." Uterus 3½ inches in length, purplish in colour; mucosa congested; os small and fissured; ovaries large, flabby, and cystic. There is extravasation of blood into many of the cysts. The Fallopian tubes tightly embrace the ovaries by old adhesions. There is also old peritonitis about the spleen and liver.

CASE 9 (vol. iv, p. 193).—Female, æt. 41, admitted April 24th, 1885, under Dr. Sturges, died September 28th, 1887.

Post-mortem (twenty-four hours after death.)—Body emaciated. Jaundice of head and upper half of trunk. Excess of fluid in all the serous cavities. Costal cartilages partially ossified. No œdema of legs. Lungs emphysematous and congested. Bronchitis. No infarction. Heart 16 oz. Cusps of tricuspid and mitral adherent and thickened. Aortic cusps are thickened, but chiefly at the base; their edges are somewhat everted. The endocardium is smooth; pericardium normal. Pulmonary 3·25 inches. Aortic 2·5 inches. Mitral 2·0 inches. Tricuspid 4·25 inches. The aorta is smooth and elastic except just close to valves. Liver 44 oz., "cardiac," spleen 4 oz., "cardiac." Kidneys each 5½ oz., "cardiac." Uterus large; parenchyma congested; mucosa normal. Ovaries large, soft, with numerous caseating follicles; both are fixed down behind and to the uterus by numerous old adhesions, which also bind the fimbriæ of the Fallopian tubes.

CASE 10 (vol. iv, p. 210).—Female, æt. 26, admitted September 15th, 1885, under Dr. Sturges, died October 31st, 1887.

Post-mortem (sixteen hours after death).—Body emaciated. Slight jaundice. Slight anasarca most evident in lower extremities and in left arm. Some post-mortem lividity. Skin of abdomen and thorax in front covered with petechiæ distributed in long streaks like wheals. Both pleural sacs contain excess of fluid (more in left). No adhesions.

At the lower part of front of right upper lobe is a mass of consolidation about the size of a turkey's egg; the superjacent pleura is covered with a thin layer of recent yellow lymph. On incision, the centre of the consolidation is found to be a hæmorrhagic infarct about the size of a walnut. In the centre it is breaking down (diffluent). Both lungs are very œdematous, and the left has suffered from the pressure of fluid. Pericardium *nil.* Heart 13½ oz. The right cavities are greatly distended with black clot. Aortic ring 2⅛ inches. Tricuspid 3·0 inches. Mitral 1⅛ inches. Left ventricle ⅜ inch. Right ventricle ⅜ to ⅝ inch. The cusps of mitral and tricuspid are adherent and thickened. On the tricuspid is an incomplete ring of recent vegetations. Liver 49 oz., "cardiac," of recent date, *i. e.* it is "nutmeg" in appearance, but is quite soft and breaks down somewhat easily on pressure. Spleen 5 oz., "cardiac." Kidneys each 6 oz.; surface smooth; capsule peels easily; cortex large; consistence normal; both are congested. Uterus normal in size. Os ulcerated, but only superficially; some catarrh of cervix; both ovaries are hard and somewhat crinkled on the surface; no cysts. peritoneum *nil.*

CASE 11 (vol. iv, p. 247).—Female, æt. 16, admitted November 24th, under Dr. Allchin, died December 14th.

Post-mortem (forty-two hours after death).—Body emaciated; no marks. Heart 14 oz. Tricuspid 4·75 inches. Mitral 3·75 inches. The cusps of mitral are adherent and thickened. Left auricle enlarged and hypertrophied. On both the tricuspid and mitral are rings of fine recent vegetations. On one aortic cusp is a small vegetation growing from the corpus arantii. Spleen 17½ oz. The ileum is the seat of "typhoid" ulcers, mostly in the solitary glands. The ulceration is not extensive. Mesenteric glands very large.

CASE 12 (vol. iv, p. 342).—Male, æt. 14, admitted March 2nd, under Dr. Allchin, died April 21st, 1888.

Post-mortem (thirteen hours after death).—Body emaciated; slight but general jaundice; rigor mortis well marked. Some small bedsores over sacrum and trochanter. Œdema of both lower extremities. Paracentesis wound in abdomen. Acute general peritonitis. Much yellow lymph and fluid in the peritoneal cavity. Kidneys pale and smooth; stellate vessels well marked. Liver pale; surface towards the anterior edge irregular; consistence firmer than normal. Spleen *nil.* Pericardium thickened and adherent, but the opposing layers are easily separated, being only united by softish yellow lymph. Mitral valve stenosed, 3·0 inches. On both mitral and tricuspid valves are complete rings of recent vegetations. Aortic valve normal. Right pleura adherent. Left normal. Lungs emphysematous; bronchitis. The upper third of the right lung is the seat of a recent hæmorrhagic infarct.

CASE 13 (vol. iv, p. 361).—Female, æt. 63, admitted April 2nd under Dr. Donkin, died May 14th, 1888.

Post-mortem (seventeen hours after death).—Body emaciated. Œdema of lower extremities. Jaundice. Rigor mortis persistent. On opening the thorax a large quantity of thin blood-stained fluid is found in the right pleural sac. The visceral pleura is covered with a thin layer of recent lymph. The lower and middle lobes of the right lung are the seat of extensive infarctions which occupy quite half of the lung tissue. Emphysema. Bronchitis. Heart 14 oz.; tricuspid thickened and its two anterior cusps united by an opaque cicatrix. Aperture 4·5 inches. The cusps of mitral are thickened and adherent, and its aperture linear. The surface of the valve is roughened from the presence of an old calcareous patch and from recent vegetations, 1⅞ inches. The auricle is large and its walls hypertrophied. Aortic valve competent. The corpora arantii are thickened from chronic endarteritis. Aorta normal. Liver 45 oz., "cardiac." Gall-bladder much distended with bile. Spleen firm, friable, and united by old adhesions to adjacent parts. The upper half is the seat of an infarction area which is commencing to show degeneration changes. Its margin is well defined and yellowish. Kidneys each 6 oz., "cardiac." Stomach small. Gastric mucosa in the condition of moderate chronic inflammation. Uterus large. Os fissured, aperture small. Cervical canal much dilated. Well-marked endocervicitis. Glands large. Sessile mucous polypus at lower part of fundus. Numerous subperitoneal cysts. Ovaries hard.

Case 14 (vol. v, p. 25).—Male, æt. 17, admitted August 27th under Dr. Donkin, died September 16th, 1888.

Post-mortem (twenty-two hours after death).—Body emaciated. Slight œdema of the lower extremities. Faint tinge of jaundice. Right pleura adherent. Excess of fluid and much yellow lymph in left sac. Both lower lobes are quite hard and red in colour, but not friable ("cardiac pneumonia"). Bronchitis. In the left lower lobe is a largish recent infarct, and numerous smaller ones in both lungs. Heart with pericardium 19 oz. Pericardium universally adherent. Recent vegetations on tricuspid, mitral, and aortic valves. Mitral cusps adherent and the orifice much stenosed; aperture linear. Aortic cusps thickened and somewhat recurved. Aorta quite normal. Liver 32½ oz., "cardiac." Spleen 3 oz., "cardiac." Kidneys all 4½ oz., hard; cortex pallid. Mucosa of stomach is covered with a thick layer of viscid mucus.

A Case of Cancer of the Thyroid Isthmus with Secondary Deposits in the Kidneys, Lungs, and Vertebræ.

By Dr. Hebb.

The following case is extremely interesting from a pathological point of view, and the more so as very few instances of this particular kind

of cancer have been recorded. By this particular kind of cancer I mean that the primary growth has been in the thyroid body, and that the secondary deposits, which have a special tendency to affect the osseous system, show microscopically a goitrous structure.

Robert A—, æt. 41, an ironmonger, was admitted on February 21st, 1887, under the care of Dr. Allchin, for paraplegia.

The patient was born in Lancashire, and had also resided in Cumberland, and more recently in London.

He had been in good health until the spring of 1885, when he complained of pain in the right hip, causing a slight limp in walking, and in the autumn of the same year experienced "numbness" in the right knee. In the winter of 1885–6 he was attacked by severe and constant pain in the chest, but the pain was not fixed to any particular place. There was nothing like a feeling of constriction. In the spring of 1886 the left leg became numb and the power of walking feeble, there being especial difficulty about going upstairs. On August 16th, 1886, he fell down and broke his right thigh just below the great trochanter. For this he was treated at St. Mary's Hospital. On October 16th, 1886, he was again admitted to St. Mary's Hospital, wherein he remained for two months. At that time he could walk on crutches and dress himself, but from the beginning of 1887 was unable to stand. There was no affection of the arms. It was about this period that incontinence of urine during sleep was first noticed, and on two occasions passed motions in bed after opening medicine.

The patient is the father of five children, all healthy, the eldest being fourteen years of age. There is no history of injury, exposure, specific disease, or of alcohol. The family history is unimportant.

On admission to the Westminster Hospital (February 21st, 1887) the patient complained of loss of power in both legs, of a sense of constant constriction over the upper part of the abdomen, and of spasms of both legs. Is obliged to pass water directly he feels the desire. The patient is intelligent and anæmic. His legs are well nourished, and the muscles firm, but he has no power of moving the lower extremities. About the knee-joints there is much rigidity. The ankle-clonus is well marked on both sides. The knee-jerks are brisk, especially on the left side, where a tap on the rectus tendon causes trepidation of the whole limb. In the cervical and upper dorsal region there is a well-marked angular curvature, but no tenderness on pressure.

Anæsthesia commences at the costal angle, and becomes absolute at the umbilical level. The superficial reflexes, with the exception of the plantar, are absent. Upper extremities normal. Special senses normal. Urine *nil*. Systolic bruit at left base.

While in the hospital the patient became greatly emaciated, a large sacral bedsore developed, and he complained much of severe shooting pains, both in abdomen and limbs. Died May 21st, 1887.

The post-mortem examination was made forty-four hours after death. The body was much emaciated. Over the sacral region is a large bedsore exposing the bone. The right leg is about one inch shorter than

the left, owing to an old fracture of the femur just below the great trochanter. In this position there is considerable thickening of the osseous tissue and enlargement from imperfect position and union. There is an angular curvature of the spine in the upper dorsal region.

Abutting on the upper part of the trachea, so as to lie in the position of, and also (owing to its size) at a lower level than, the thyroid isthmus, is a spherical tumour about the size of a small hen's egg. It is very hard, and when incised shows a central cavity which contains a thin watery fluid. The husk is tough, especially at the lower half, which is yellow in colour. The upper half is more fleshy. The internal aspect of the cavity is rough and irregular from projecting nodules. Externally the tumour is encased in a thin fibrous sheath.

Owing to the pressure of the tumour, the trachea is bulged inwards. The lateral lobes of the thyroid are normal.

Brain and membranes normal. The spinal cord is throughout very soft, owing to the pressure exerted by a new growth which appears in the spinal canal at the level of the second and third dorsal vertebræ. The new growth has invaded the bodies of the second, third, and fourth dorsal vertebræ, and within the thorax appeared as rounded masses on either side of the vertebral column.

There are no enlarged glands in the thorax or abdomen.

The lungs contain many spheroidal masses of the new growth. These vary in size from a pea to a small nut. There is nothing noteworthy in the heart, liver, spleen, and adrenals. Kidneys 9 and 10½ oz. Both contain several masses of secondary deposit, varying in size from a pea to a large marble. Some of these masses are fleshy, others cystic.

Gastro-intestinal tract *nil*. Bladder *nil*. Vesiculæ seminales sacculated, or rather cystic, and one contains a spheroidal calculus about the size of a small pea.

Microscopical examination of the tumour in the neck and of the secondary growths shows that the neoplasms have essentially the same structure as that of the thyroid body. That is to say, there are closed follicles lined by an epithelium, and these follicles frequently contain a "colloid" matter. They are separated from one another by some scanty fibrous tissue and blood-vessels. In size the follicles vary considerably, some being very small, and others, notably in the kidney, very large. In the lungs some of the nodules have undergone a central fibrosis, from which radiate outwards lines of follicles. In other deposits the sides of the follicles are so close that there is no appearance of a cavity, indeed, these nodules present an almost sarcomatous appearance; one of their prominent characteristics is being richly supplied with blood-vessels, some of them quite large. Retrograde degeneration is possibly represented by some enlarged follicles, which have become cysts with watery or thin viscid contents. There is no evidence of caseous degeneration.

Although not unique, this class of malignant disease, that

is, where the neoplasm is built up on the plan of the thyroid body, and from which it presumably descends, is rare.

The instances which I find recorded are the following:—'Pathological Society's Transactions,' (1) vol. xxxi, p. 259; (2) vol. xxxiii, p. 291; (3) vol. xxxviii, p. 399. (4) 'Virchow's Archiv,' vol. lxvi, p. 366; (5) vol. lxviii, p. 547. (6) 'Archiv f. klin. Chirurgie,' vol. xxiii; (7) vol. xxiv.

In three of the cases quoted from German sources a microscopical examination does not appear to have been made, but there was some kind of enlargement of the thyroid, coupled with secondary growths, in various parts of the body. This last factor is almost the *sine qua non*, but not quite. For if these cases were to be set apart and classified by themselves, it ought to be made certain that their microscopical structure resembled that of the thyroid body. In the first four cases cited this fact was verified. But in addition to the thyroid being enlarged, to the presence of secondary growths in various parts and organs, to the likeness of the microscopical appearances to the thyroid structure, it has been remarked that this neoplasm has a remarkable affection for bone, and that where a secondary growth has developed in bone the tumour has often become pulsating.

DESCRIPTION OF PLATE.

Both figures are drawn to the same scale (× 100 circa), and serve to show the general appearance of the secondary growths, and also the variable size of the follicles. Fig 1 (*a*), dilated vessel filled with blood. The shading represents the colloid matter.

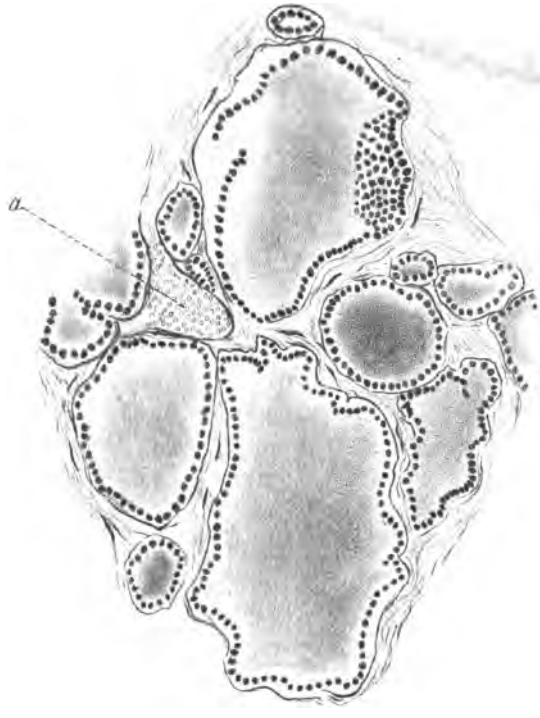


Fig. 1

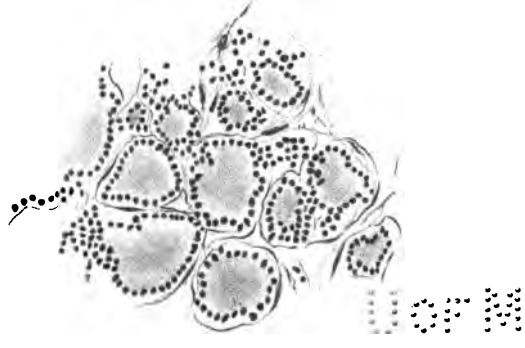


Fig. 2.

R. G. Hebb, del. *Danielsson & Co. lith.*

REPORTS OF THE REGISTRARS.

MEDICAL REGISTRAR'S REPORT FOR THE YEAR 1887.

By H. WALTER SYERS.

Number of patients in Hospital, Jan. 1st, 1887			71
" " " Dec. 31st, 1887			77
Admitted to Medical Wards during the year			1072
Of these—Males	547		
Females	525		
	—1072		
Average number of patients in Hospital			89·3
Average stay in Hospital of each patient			19·4 days.
Recovered or relieved:			
Males		448	
Females		402	
		—	850
Unrelieved, including those sent to Surgical or Obstetrical Wards:			
Males		41	
Females		30	
		—	71
Died:			
Males		83	
Females		68	
		—	151

Table A.

Disease.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males	Sex. Females.	Sex. Total.	Age. Under 5 yrs.	Age. 5—10.	Age. 10—20.	Age. 20—30.	Age. 30—40.	Age. 40—50.	Age. 50—60.	Age. Over 60.	Result. Death.	Result. Unrelieved.	Result. Relieved.	No. in Register.
General Diseases:																			
Group A:																			
Scarlatina	...	2	12	3	5	12	17	5	8	1	1	1	...	1	...	2	...	15	
Morbilli	2	16	2	2	11	11	22	7	9	2	1	3	...	...	...	...	...	22	
Rötheln	...	...	...	1	1	...	1	...	...	...	1	...	...	...	...	...	...	1	
Enteric fever	...	1	6	17	15	9	24	...	2	11	9	1	1	...	...	3	...	27	
Diphtheria	4	7	6	9	9	17	26	19	3	3	...	1	...	...	...	20	...	6	
Intermittent fever	...	...	1	...	1	...	1	...	...	...	1	...	...	...	...	...	...	1	
Erysipelas	5	4	3	6	4	14	18	...	...	5	8	2	...	1	2	...	...	18	
Syphilis	1	5	2	1	2	7	9	2	...	...	1	3	3	...	...	1	...	8	
Scorbutus	...	...	...	1	1	...	1	...	...	...	...	...	1	...	...	...	...	1	
Febricula	...	...	1	...	1	...	1	...	...	1	...	...	...	...	...	...	...	1	
Group B:																			
Poisons:																			
Belladonna	...	...	...	1	...	1	1	...	...	...	...	1	...	...	...	...	...	1	
Lead	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Group D:																			
Not classified:																			
Acute rheumatism	8	12	15	34	34	35	69	...	2	29	23	10	3	2	...	1	2	66	*vide* Table C
Rheumatism, including subacute and chronic	3	7	3	6	12	7	19	...	...	2	3	5	3	4	2	...	3	16	
Leucocythæmia	...	...	1	...	1	...	1	...	...	...	...	1	...	...	...	...	1	...	
Tuberculosis	2	3	3	3	5	6	11	4	...	4	...	...	1	1	1	6	1	4	
Rickets	...	...	1	2	1	2	3	3	...	...	...	...	...	...	...	...	...	3	
Anæmia and chlorosis	22	30	23	34	18	94	112	...	...	68	30	10	4	...	...	...	...	112	
Diabetes mellitus	...	2	...	...	2	...	2	...	...	...	...	...	1	...	1	...	2	...	
Diseases of the Nervous System:																			
Brain:																			
Meningitis	1	...	...	1	1	1	2	1	...	1	...	...	...	...	...	2	...	...	
Hæmorrhage	...	1	...	1	...	2	2	...	...	...	...	...	1	1	...	2	...	...	
Tumour	1	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...	1	...	
Abscess	...	1	...	...	...	1	1	...	...	...	1	...	...	...	...	1	...	...	
Cerebro-spinal sclerosis	...	1	...	...	1	...	1	...	...	...	1	...	...	...	...	...	1	...	
Hydrocephalus	1	...	1	...	1	1	2	2	...	...	...	...	...	...	...	1	1	...	
Hemiplegia	6	4	2	3	12	3	15	...	...	...	4	3	2	2	4	1	4	10	
Softening	...	...	...	1	...	1	1	...	...	...	...	...	...	1	...	1	...	...	
Cord:																			
Chronic myelitis	1	...	1	1	3	...	3	...	...	...	1	1	1	...	...	1	1	1	
Anterior poliomyelitis	1	...	1	...	2	...	2	1	1	...	...	...	...	...	...	...	2	...	
Spastic paralysis	1	2	...	...	3	...	3	...	1	...	...	1	1	...	...	...	...	3	
Tabes dorsalis	2	...	...	1	3	...	3	...	...	...	...	1	1	1	...	...	3	...	
Sciatica	3	1	3	1	7	1	8	...	...	...	2	1	1	1	3	...	2	6	

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Sex. Females.	Sex. Total.	Age. Under 5 yrs.	Age. 5—10.	Age. 10—20.	Age. 20—30.	Age. 30—40.	Age. 40—50.	Age. 50—60.	Age. Over 60.	Result. Death.	Result. Unrelieved.	Result. Relieved.	No. in Register.
DISEASES OF THE NERVOUS SYSTEM:																			
Cord—continued.																			
Diphtheritic paralysis	1	...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	1	
Epilepsy	1	5	2	1	5	4	9	1	2	2	...	2	...	2	...	...	2	7	
Infantile convulsions	1	1	...	...	2	...	2	2	...	...	...	...	...	...	...	1	...	1	
Chorea	7	4	5	8	11	13	24	2	5	17	...	...	...	...	...	...	...	24	
Hysteria	2	2	2	4	...	10	10	...	...	4	5	1	...	...	...	...	2	8	
Spasmodic torticollis	1	...	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	1	
Hammerman's cramp	1	...	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	1	
Injury to external popliteal nerve	1	...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	1	
Paralysis agitans	1	...	...	...	1	1	1	...	...	...	...	...	...	1	...	...	1	...	
Mental diseases:																			
Idiocy	2	1	...	...	3	...	3	...	1	2	...	...	...	...	...	...	3	...	
Mania	2	...	...	...	...	2	2	...	...	...	1	...	...	1	...	2	...	...	
Delirium tremens	1	...	...	...	...	1	1	...	...	...	...	...	1	...	...	1	...	...	
Melancholia	...	...	...	1	1	...	1	...	...	...	1	...	...	...	...	...	1	...	
DISEASES OF THE CIRCULATORY SYSTEM:																			
Dilatation of heart	4	4	9	3	10	10	20	...	...	...	1	2	2	10	5	4	...	16	
Endocarditis (not arising in hospital):																			
Mitral:																			
1. With presyst. murmur	1	...	1	2	...	4	4	...	...	1	2	...	...	...	1	1	...	3	
2. With systolic murmur	7	8	8	1	12	12	24	...	2	4	5	7	2	2	2	5	...	19	
3. With double murmur	7	5	1	4	5	12	17	...	1	1	6	4	2	1	2	2	...	15	
Aortic:																			
1. With diastolic murmur	...	1	1	1	3	...	3	...	...	1	...	1	1	...	...	...	...	3	
2. With double murmur	4	4	6	4	13	5	18	...	...	1	3	4	6	2	2	3	...	15	
Fatty degeneration	...	...	...	1	1	...	1	...	...	...	...	...	...	1	...	...	...	1	
Aneurysm:																			
1. Thoracic	1	2	2	...	3	2	5	...	...	...	...	1	1	2	1	2	...	3	
2. Abdominal	...	1	...	...	1	...	1	...	...	...	1	...	...	...	...	1	...	...	
Diseases of the Thyroid:																			
Exophthalmic goitre	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Sex. Females.	Sex. Total.	Age. Under 5 yrs.	Age. 5—10.	Age. 10—20.	Age. 20—30.	Age. 30—40.	Age. 40—50.	Age. 50—60.	Age. Over 60.	Result. Death.	Result. Unrelieved.	Result. Relieved.	No. in Regtster.
DISEASES OF THE RESPIRATORY SYSTEM:																			
Laryngitis	1	1	1	1	3	1	4	1	...	1	...	...	1	1	...	...	1	3	
Bronchitis:																			
1. Acute	4	4	4	5	13	4	17	10	3	2	1	...	1	...	...	2	...	15	
2. Chronic	20	4	6	13	28	15	43	...	...	...	6	4	17	9	7	5	...	38	
Pneumonia:																			
1. Lobular	8	4	7	10	20	9	29	29	...	...	...	...	...	...	...	9	...	20	
2. Lobar	12	17	15	7	39	12	51	10	11	6	4	10	6	4	...	14	...	37	
Pleurisy:																			
1. Effusion	3	6	10	4	9	14	23	...	1	2	11	3	4	1	1	...	...	23	
2. Empyema	1	2	...	1	2	2	4	1	...	1	1	1	...	...	...	3	...	1	
Phthisis	24	25	24	8	53	28	81	...	...	12	27	20	15	5	2	13	...	68	
Gangrene of lung	...	...	...	1	1	...	1	...	...	...	...	1	...	...	...	1	...	...	
Malignant disease of lung	...	1	...	...	...	1	1	...	...	...	...	1	...	...	...	1	...	...	
Mediastinal tumour	2	...	...	...	1	1	2	...	...	...	...	1	1	...	...	1	1	...	
DISEASES OF THE DIGESTIVE SYSTEM:																			
Pharynx and Œsophagus:																			
Tonsillitis	6	9	14	12	18	23	41	5	6	17	8	3	2	...	...	...	...	41	
Stricture	1	...	1	...	1	1	1	...	...	...	...	...	...	1	1	...	2	...	
Stomach:																			
Ulcer	3	4	1	5	2	11	13	...	...	...	8	2	2	1	...	2	...	11	
Carcinoma	5	...	...	...	4	1	5	...	...	...	...	3	2	...	...	2	3	...	
Intestines:																			
Duodenal ulcer	...	1	...	...	1	...	1	...	...	...	...	...	1	...	...	1	...	...	
Diarrhœa	6	4	24	1	17	18	35	22	1	1	4	4	2	1	...	8	...	27	
Constipation	...	2	3	2	3	4	7	...	...	2	3	1	...	1	...	...	...	7	
Colic	...	...	1	2	1	2	3	...	...	1	1	...	1	...	...	...	...	3	
Typhlitis	2	2	3	...	6	1	7	...	1	2	1	1	1	1	...	2	...	5	
Malignant disease of colon	...	...	1	1	1	1	2	...	...	...	1	...	1	...	...	2	...	...	
Malignant disease of rectum	...	...	1	...	1	...	1	...	...	1	...	...	...	...	...	1	...	...	
Intussusception	...	1	...	...	1	...	1	1	...	...	...	...	...	...	...	1	...	...	
Liver:																			
Jaundice	5	1	...	2	3	5	8	...	...	1	1	...	4	2	...	...	2	6	

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Sex. Females.	Sex. Total.	Age. Under 5 yrs.	Age. 5—10.	Age. 10—20.	Age. 20—30.	Age. 30—40.	Age. 40—50.	Age. 50—60.	Age. Over 60.	Result. Death.	Result. Unrelieved.	Result. Relieved.	No. in Register.
DISEASES OF THE DIGESTIVE SYSTEM:																			
Liver—continued.																			
Gall-stone colic	3	3	3	...	5	4	9	...	...	...	3	...	5	1	...	...	...	9	
Cirrhosis	1	1	4	4	6	4	10	...	...	...	...	5	5	...	...	2	1	7	
Hydatid	...	1	...	...	...	1	1	...	...	1	...	...	...	...	...	...	...	1	
Carcinoma	1	...	...	...	1	...	1	...	...	...	...	...	...	1	...	1	...	...	
Abscess	1	1	...	...	2	...	2	...	...	...	1	...	...	1	...	...	...	2	
DISEASES OF THE SUPRARENAL CAPSULES:																			
Addison's disease	...	1	...	...	1	..	1	...	...	1	...	...	...	...	...	1	...	...	
DISEASES OF THE URINARY SYSTEM:																			
Hæmaturia	...	1	...	1	1	1	2	...	1	...	1	...	...	...	...	...	2	...	
Acute nephritis	2	4	5	4	10	5	15	6	4	3	2	...	...	...	...	4	...	11	
Chronic nephritis	4	14	13	9	19	21	40	...	...	1	7	7	10	8	7	9	3	28	
Renal calculus	3	3	1	1	5	3	8	...	...	1	2	3	2	...	...	1	3	4	
DISEASES OF THE SKIN:																			
Erythema nodosum	...	...	...	1	...	1	1	...	...	...	1	...	...	...	...	...	...	1	
Eczema	2	1	1	...	3	...	3	1	...	1	1	...	...	...	...	...	...	3	
Psoriasis	...	1	...	...	...	1	1	...	...	1	...	...	...	...	...	...	...	1	
Herpes zoster	...	1	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	1	
Urticaria	...	...	...	1	1	...	1	...	...	...	1	...	...	...	...	...	...	1	
Phthiriasis	1	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	...	1	
DISEASES OF WOMEN:																			
Carcinoma uteri	1	...	...	...	...	1	1	...	...	...	...	...	1	...	...	1	...	1	
Uterine diseases (transferred to Arden)	...	1	1	...	...	2	2	...	...	...	1	1	...	...	...	...	2	...	

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Sex. Females.	Sex. Total.	Age. Under 5 yrs.	Age. 5—10.	Age. 10—20.	Age. 20—30.	Age. 30—40.	Age. 40—50.	Age. 50—60.	Age. Over 60.	Result. Death.	Result. Unrelieved.	Result. Relieved.	No. in Register.
VARIOUS:																			
Ill-feeding	2	2	...	...	3	1	4	4	...	...	...	...	...	...	...	...	...	4	
Epistaxis	1	1	...	...	1	1	2	...	...	1	1	...	...	...	...	...	...	2	
Tænia mediocanellata	...	...	1	...	...	1	1	...	...	1	...	...	...	...	...	...	...	1	
Alveolar abscess	2	1	...	...	...	3	3	...	...	1	2	...	...	...	...	...	...	3	
Debility	7	1	6	3	9	8	17	...	1	...	3	4	6	3	...	...	...	17	
Alcoholism	3	1	2	3	5	4	9	...	...	1	2	4	2	...	...	...	2	7	
Abuse of opium	...	1	...	...	1	...	1	...	...	...	...	...	...	...	1	...	1	...	
Scald	...	...	...	1	1	...	1	1	...	...	...	...	...	...	...	...	...	1	
Carbuncle	...	...	...	1	...	1	...	1	...	...	1	...	...	...	...	...	...	1	
Otitis media	...	...	...	1	1	...	1	...	...	1	...	...	...	...	...	...	1	...	
Angular curvature	...	...	...	1	1	...	1	...	1	...	...	...	...	...	...	...	1	...	
Hip disease	...	...	1	...	...	1	1	...	...	1	...	...	...	...	...	...	1	...	
Privation	...	...	...	1	1	...	1	...	...	1	...	...	...	...	...	...	...	1	
Phalangeal disease (fingers)	...	1	...	...	1	...	1	1	...	...	...	...	...	...	...	...	1	...	
Heat stroke	...	...	1	...	1	...	1	...	...	...	1	...	...	...	...	...	...	1	
Undiagnosed	...	1	1	2	3	1	4	1	...	...	...	...	...	3	...	...	4	...	

TABLE B.—*Enteric Fever.*

Twenty-four cases of enteric fever were treated in the hospital during the year 1887.

The average stay in the hospital of each patient was 41·6 days.

Three deaths occurred; two males died from perforation and peritonitis, and one female from exhaustion.

The cause assigned in the majority of cases was, as in former years, bad drainage.

TABLE B—*continued.*

No. and name.	Month admitted	Sex.	Age.	Onset.	Character.	Fever.	Days in hosp.	Result.	Treatment.	Remarks.
1 A. H.	April	M.	24	Headache, weakness, diarrhœa	Admitted at end of 1st week; well-marked rash	14 days' fever; highest temp. 102·6°	24	Recov.	—	Mild attack.
2 N. R.	July	F.	22	Diarrhœa, headache, weakness, epistaxis	Admitted at end of 1st week; much abdominal distension and diarrhœa; rash well developed	16 days' fever; highest temp. 105·4°	67	„	Brandy, Pulv. ipecac. co.	Severe attack with great prostration and much delirium.
3 L. F.	July	F.	24	Sorethroat, diarrhœa, weakness, and headache; night delirium	Admitted in middle of 2nd week; profuse diarrhœa; bronchitis very marked	16 days' fever; highest temp. 105°	62	„	Brandy	Very severe attack.
4 H. M.	Aug.	M.	14	Sickness, diarrhœa, night delirium, weakness	Admitted about middle of 2nd week; sickness and much abdominal distension	5 days' fever; highest temp. 102·6°	23	„	—	Mild attack.
5 F. D.	Aug.	M.	17	Pains in limbs, drowsiness, diarrhœa	Admitted at end of 1st week; abdominal distension; diarrhœa; rash well developed; relapse at end of 5th week	14 days' fever in first attack; 10 days' fever in relapse; highest temp. 104°	66	„	Brandy	Prolonged convalescence, during which the pulse was very slow and irregular.
6 F. F.	Sept.	M.	13	Abdominal pain and diarrhœa, epistaxis, headache	Admitted at end of 2nd week; very prostrate from the first; rash well marked; profuse diarrhœa	23 days' fever; highest temp. 105°	23	Death	Brandy, enema opii	Fatal attack; temperature high throughout; death from perforation. P.M.—Typhoid ulceration, the highest ulcer being 27 in. above the valve; ulcers deep; one had perforated.

7 C. C.	Sept.	M.	24	Headache, weakness, loss of appetite, epistaxis, vomiting	Admitted at end of 1st week; severe relapse at end of 4th week	21 days' fever in first attack; 29 days' fever in relapse; highest temp. 104·8°	87	Recov.	Brandy, sponging	Mild first attack followed by severe relapse, in which the patient became very prostrate; slight hæmorrhage from bowel
8 A. F.	Oct.	F.	17	Shivering, headache, weakness, epistaxis, diarrhœa	Admitted on 10th day; much abdominal distension; rash well marked	21 days' fever; highest temp. 104·6°	55	"	—	Prolonged convalescence.
9 R. H.	Oct.	M.	20	Headache, loss of appetite, epistaxis, cough	Admitted at end of 2nd week; rash well marked; abdominal distension	7 days' fever; highest temp. 104°	44	"	—	Mild attack.
10 M. C.	Oct.	F.	13	Shivering, headache, epistaxis, weakness, diarrhœa, night delirium	Admitted on 9th day; abdominal distension; constipation; rash well marked	21 days' fever; highest temp. 103°	46	"	Occasional enemata	Patient's father in hospital at the same time with enteric fever; bad smells had been noticed in the house for some weeks, due to leakage from the pipe connecting the house drains with the sewer
11 M. C.	Oct.	M.	47	Loss of appetite, headache, shivering, weakness, diarrhœa	Admitted at end of 2nd week; much bronchitis and profuse diarrhœa	14 days' fever; highest temp. 104°	41	"	Brandy	Father of preceding patient. During his second week in the hospital an attack of facial erysipelas occurred. The patient had suffered from winter cough for several years, and was emphysematous. The bronchitis was a severe complication.

TABLE B—*continued.*

No. and name.	Month admitted	Sex.	Age.	Onset.	Character.	Fever.	Days in hosp.	Result.	Treatment.	Remarks.
12 F. B.	Oct.	M.	28	Vomiting, weakness, diarrhœa	Admitted at end of 1st week; abdominal distension; a few spots; constipation	7 days' fever; highest temp. 103·2°	47	Recov.	—	Mild attack.
13 P. M.	Nov.	M.	24	Weakness, diarrhœa, vomiting	Admitted at end of 1st week; profuse diarrhœa for one week; a few spots	7 days' fever; highest temp. 104°	30	"	—	Mild attack; pulse rarely exceeded 88; no delirium
14 R. B.	Nov.	M.	26	Shivering, sickness, headache, weakness, diarrhœa	Admitted on 12th day; abdomen retracted; slow and irregular pulse at first; constant vomiting; perforation	22 days' fever; highest temp. 104·8°	22	Death	Brandy, opium	Fatal attack. Diagnosis lay at first between cerebral disease and enteric fever
15 H. R.	Nov.	F.	16	Shivering, headache, weakness, diarrhœa, night delirium	Admitted in middle of 1st week; prostrate from the first; abdomen distended; a few spots; delirium, tremor	20 days' fever; highest temp. 105°	20	"	Brandy, pot. bromid.	Fatal attack. The patient was very anæmic. She had suffered from acute rheumatism 2 years previously, and was in hospital in 1880 with chorea. P.M.—Typhoid ulceration extending 72 in. above ileo-cæcal valve; ulcers generally healing; recent vegetations on auricular aspect of mitral valve.
16 C. H.	Nov.	M.	25	Weakness, sleeplessness, loss of appetite, diarrhœa	Admitted at end of 1st week; abdomen distended; slight rash; constipation	14 days' fever; highest temp. 104°	46	Recov.	—	Mild attack.
17 E. F.	Nov.	F.	12	Pain in abdomen, headache, vomiting, loss of appetite	Admitted at end of 1st week; abdominal distension; well-marked rash; diarrhœa	21 days' fever; highest temp. 104°	56	"	—	—

18 E. L.	Nov.	F.	36	Headache, weakness, abdominal pain, diarrhœa	Admitted at end of 2nd week; great prostration with delirium and tremor; rash well marked; profuse diarrhœa	21 days' fever; highest temp. 105°	64	„	Brandy	—
19 A. E.	Dec.	M.	17	Shivering, weakness	Admitted at end of 1st week; rash well marked; much abdominal distension; constipation	9 days' fever; highest temp. 104·6°	49	„	—	The patient had been sleeping in the same bed with his brother, who was suffering from enteric fever and died
20 P. E.	Dec.	M.	13	Sickness, loss of appetite, diarrhœa, night delirium	Admitted at end of 2nd week; abdominal distension; a few spots; spleen markedly enlarged; sickness	7 days' fever; highest temp. 104°	32	„	—	Mild attack.
21 F. B.	Dec.	M.	13	Headache, loss of appetite, weakness	Admitted at end of 1st week; severe attack; much delirium and tremor	12 days' fever; highest temp. 104°	47	„	—	The patient passed into a fatuous condition during convalescence, from which he gradually recovered.
22 L. H.	Dec.	F.	5	Diarrhœa, sickness, abdominal pain	Admitted in middle of 1st week; abdominal distension; well-marked rash	10 days' fever; highest temp. 101·6°	41	„	—	—
23 B. G.	Dec.	F.	10	Sickness, diarrhœa, epistaxis, night delirium	Admitted in middle of 1st week; well-marked rash	14 days' fever; highest temp. 104·2°	36	„	—	—
24 E. A.	Dec.	M.	6	Sickness, diarrhœa, headache, loss of appetite, abdominal pain	Admitted in middle of 1st week.	10 days' fever; highest temp. 103·6°	36	„	—	Patient lived in the same house as the preceding patient. Both were taken ill at the same time.

Table C.—*Acute Rheumatism.*

In last year's report a summary was given of all the cases of acute rheumatism treated in the hospital during the years 1881-2-3-4-5-6, with especial reference to the following points: age, sex, months, seasons of the year, duration of attack, heart complications, and inheritance.

To this summary are now added the details of the cases treated during the year, 1887, the total number of cases being 491.

Ages.

	Under 5.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.
1881	0	2	31	22	23	5	1	0
1882	1	3	29	16	12	5	1	0
1883	0	1	18	28	14	8	2	1
1884	0	16	33	29	14	5	3	0
1885	0	1	26	21	12	1	1	1
1886	0	0	17	13	4	2	0	0
1887	0	2	29	24	10	3	1	0
Total	1	25	183	153	89	29	9	2

Sex.

	Males.	Females.
1881	43	41
1882	25	42
1883	39	33
1884	46	54
1885	31	32
1886	13	23
1887	34	35
Total	231	260

Numbers admitted in each month.

January	48	July	28
February	47	August	45
March	44	September	47
April	31	October	56
May	28	November	33
June	32	December	54

Seasons.

Cases admitted in each group of three months.

January—March	139	July—September	120
April—June	91	October—December	141

Cases admitted in two groups: six warmer and six colder months.

April—September	204	October—March	287

Average stay in hospital—24·9 days.

Inheritance.

	Rheumatism.	Gout.	Neurosis.	Phthisis.
1881	26	7	3	11
1882	34	2	13	19
1883	32	6	9	9
1884	42	14	22	
1885	17	7	22	18
1886	11	2	3	5
1887	28	0	8	14
Total	190	38	80	84

Character.

Months.	No. of cases.	Average stay in days.	No. of cases with heart disease.	Character of heart disease.		No. of cases admitted with old heart disease.
				Peri-carditis.	Endo-carditis.	
January	48	33·85	26	9	24	4
February	47	30·71	29	17	20	7
March	44	31·48	20	10	18	4
April	31	32·82	17	4	15	5
May	28	30·70	14	8	10	1
June	32	29·17	17	5	14	6
July	28	15·08	17	5	11	7
August	45	20·30	21	9	13	7
September	47	25·49	23	5	15	7
October	56	32·11	32	10	23	10
November	33	25·33	25	8	10	4
December	52	25·26	28	10	17	10

The whole number of cases with heart affection is 261; of these, 88 suffered from pericarditis, and 199 from endocarditis. The number includes 72 cases with old heart disease, as shown by cardiac bruits, and 60 who had both pericarditis and endocarditis. The number leaving hospital with persistent bruits is 202.

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart. Affection.	Heart. In which attack developed.	Heart. State on discharge.	No. of days in hospital.	Result.	Treatment.	Remarks.
1 C. C.	M	26	Jan.	10th	0	26	—	10	2	103·6°	Knees and ankles	—	—	—	24	Recovery	Sodæ sal.	Attack preceded by tonsillitis.
2 A. H.	F.	32	Feb.	14th	2	21	Father phthisis, mother acute rheumatism, one brother phthisis	2	7	102°	Wrists, fingers, knees, ankles	Endocarditis, pericarditis	?	Mitral regurgitation	28	"	"	—
3 G. W.		25	Mar.	15th	0	25	—	7	18	100°	Knees, left wrist	—	—	—	40	"	Alkalies, quiniæ sulph.	Patient had been working for some weeks in a damp and draughty shop.
4 A. A.	M.	16	Mar.	5th	2	10	One sister hip disease	3	5	101°	Knees, right ankle	Endocarditis	?	Double aortic murmur	16	"	Alkalies	No cardiac symptoms.
5 S. P.		13	Mar.	13th	0	13	Father rheumatism	3	10	100°	Left knee and ankle	—	—	Soft systolic murmur at apex	17	"	Sodæ sal., ol. menth., vin. ferri, emp. lyttæ	—
6 J. C.	M.	33	Mar.	21st	1	23	—	3	5	100°	Ankles, knees	—	—	—	20	"	Alkalies, emp. lyttæ	—

7 L. L.	F.	29	Mar.	7th	0	29	—	10	15	104°	Knees, ankles, back, shoulders	Endo-carditis	Pre-sent	Mitral regurgi-tation	30	„	Sodæ sal.	Severe attack. Patient had been walking in the snow the day before pain began.
8 J. P.	F.	15	Mar.	3rd	0	15	Mother phthisis	4	6	102°	Knees, ankles, elbows, wrists	„	„	„	29	„	„	—
9 A. W.	F.	14	April	5th	0	14	—	5	3	101°	Hips, knees	—	—	Systolic murmur near left base	21	„	„	—
10 R. M.	F.	19	„	21st	1	14	—	1	3	99°	Ankles	—	—	—	6	„	—	—
11 L. T.	F.	15	May	5th	0	15	Paternal grand-father insane, paternal aunt "fits," father rheuma-tism	4	3	102°	Ankles and knees	Endo-carditis	Pre-sent	Mitral regurgi-tation	11	„	Sodæ sal., potass. cit.	—
12 G. S.	F.	22	„	14th	0	22	—	12	10	102·4°	Elbows, knees, ankles	Systolic murmur at all orifices	—	Heart-sounds clear	32	„	Sodæ sal., pulv. ipecac. co.	Patient was suckling a child of eleven months.
13 F. R.		12	June	14th	0	12	—	10	5	102·8°	Knees and ankles	Peri-carditis, endo-carditis	?	—	18	Death	Brandy	—

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart. Affection.	Heart. In which attack developed.	Heart. State on discharge.	No. of days in hospital.	Result.	Treatment.	Remarks.
14 J. H.	M.	19	June	12th	1	7	—	10	4	103·8°	Left shoulder, knees, ankles	Pericarditis, endocarditis	?	Mitral regurgitation, aortic obstruction, and regurgitation	30	Recovery	Sodæ sal.	Shortness of breath noticed since the first attack; works as porter, carrying heavy weights.
15 G. P.	M.	24	„	8th	0	24	—	3	3	103·6°	Wrists, knees, ankles	Systolic murmur, loudest at left base	—	Heart-sounds clear	14	„	Sodæ sal., pulv. ipec. co.	—
16 A. R.	M.	30	„	5th	2	28	Father rheumatism	2	3	100°	Ankles	Endocarditis	?	Mitral regurgitation, aortic regurgitation	7	„	Tinct. ferri perch., liq. strych.	The patient, a footman, had been much exposed to sudden changes of temperature.
17 H. E.	M.	20	„	3rd	2	10	„	6	5	103°	Wrists, knees, ankles	„	?	Mitral regurgitation	30	„	Sodæ sal., emp. lyttæ	Attack followed exposure on cricket field.
18 M. A. B.	F.	17	„	14th	1	16	Father phthisis, a brother acute rheumatism	6	12	101°	Fingers, wrists, knees, ankles	„	?	„	32	„	—	Attack preceded by tonsillitis.

19 L. H.	F.	54	„	4th	1	10	Father rheumatism, two brothers phthisis	3	8	102°	Knees, ankles	„	?	„	9	„	Sodæ sal.	—
20 E. H.	F.	22	„	14th	0	22	Father heart disease	3	5	101°	Elbows, wrists, knees, and ankles	—	—	—	11	„	—	—
21 C. P.	M.	17	July	21st	1	14	—	5	6	101·8°	Knees, ankles, right elbow	Endo-carditis	?	Mitral regurgitation, aortic regurgitation	14	„	Diaphoretics, tinct. ferri perch.	No cardiac symptoms noticed.
22 H. H.	M.	15	„	4th	0	15	A sister acute rheumatism three times	2	4	102°	Wrists, knees, ankles	„	—	Mitral regurgitation	13	„	Sodæ sal., pulv. ipecac. co.	—
23 A. C.	F.	28	„	21st	3	13	Mother acute rheumatism	4	3	102·4°	All large joints	—	—	—	6	„	Sodæ sal., tr. ferri perch., pulv. ipecac. co.	Attack preceded by tonsillitis.
24 K. M.	F.	23	„	4th	2	21	Father acute rheumatism, one sister epilepsy	5	15	103°	Right wrist, knees, ankles	Endo-carditis	?	Mitral regurgitation	23	„	Sodæ sal.	—

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart.			No. of days in hospital.	Result.	Treatment.	Remarks.
												Affection.	In which attack developed.	State on discharge.				
25 M. T.	F.	20	July	5th	0	20	Mother acute rheumatism, brother phthisis	21	19	101·2°	Left elbow and wrist, left ankle	Systolic apex	—	Heart-sounds clear	27	Recovery	Sodæ sal., pulv. ipecac. co.	—
26 W. B.	M.	20	Aug.	4th	4	17	—	3	4	100·4°	Fingers, knees, ankles	Endocarditis	?	Mitral regurgitation	10	„	Sodæ sal.	Chilled after running. Patient a barman.
27 T. L.	M.	33	„	14th	0	33	—	14	10	100·6°	Right shin, both elbows and wrists	—	—	—	26	„	„	—
28 W. M.	M.	15	„	8th	0	15	—	4	6	100·8°	Left knee, ankles	—	—	—	14	„	„	—
29 W. P.	M.	10	„	5th	0	10	Father insane (suicide)	3	3	100·8°	Knees, ankles, shoulder	—	—	—	4	„	—	Attack preceded by tonsillitis.
30 E. L.	F.	29	„	7th	1	23	—	2	3	99·4°	All large joints	Pericarditis, endocarditis	?	Mitral obstruction and regurgitation	21	„	—	—

31 F. R.	M.	19	Sept.	3rd	1	17	Father phthisis	10	7	103°	Wrists, knees, ankles	Endo-carditis	?	Mitral regurgitation, aortic regurgitation	26	„	Sodæ sal.	Patient, a postman, was able to discharge his duties without distress until present illness.
32 N. D.	F.	9	„	17th	1	8	—	14	3	103°	Ankles and knees	Peri-carditis, endo-carditis	?	„	45	„	Tr. digit., brandy	In hospital a few months previously with chorea after fright. Present attack came on after sea bathing.
33 W. M.	M.	28	„	6th	0	28	Father rheumatism	5	5	101·6°	All large joints	—	—	—	13	„	Sodæ sal.	—
34 K. S.	F.	22	„	14th	1	19	Father phthisis	7	2	101°	Knees, ankles	Peri-carditis, endo-carditis	?	Mitral regurgitation	40	„	Brandy, tr. digit.	Enteric fever in hospital at end of 1886.
35 L. E.	M.	17	„	28th	2	7	Paternal grandfather rheumatism, father and sister phthisis	3	14	100°	Wrists, knees, ankles	Endo-carditis	?	„	23	„	Sodæ sal.	—
36 F. F.	M.	18	Oct.	3rd	4	2	Father rheumatism	21	40	103°	All large joints	Endo-carditis, peri-carditis	?	Mitral regurgitation, aortic obstruction and regurgitation	90	Uncertain	Brandy	—

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart. Affection.	Heart. In which attack developed.	Heart. State on discharge.	No. of days in hospital.	Result.	Treatment.	Remarks.
37 J. W.	F.	21	Oct.	3rd	3	10	First cousin chorea	10	6	102°	Ankles, knees	Endocarditis	?	Mitral regurgitation, aortic regurgitation	31	Recovery	—	Case complicated with pleuro-pneumonia of left lower lobe.
38 E. P.	F.	27	„	4th	1	21	—	14	13	104·8°	Wrists, knees	Systolic murmur at all orifices	—	Heart-sounds clear	24	„	Sodæ sal.	Chilled at "Wild West."
39 E. M.	F.	13	„	6th	0	13	Mother rheumatism	3	7	101°	All large joints	Systolic murmur at apex	—	„	26	„	„	—
40 M. L. S.	F.	21	„	4th	1	16	Father heart disease, mother acute rheumatism, mother's family phthisis	3	5	101·6°	Wrists and fingers	Systolic murmur over pulmonary orifice	—	„	20	„	„	—
41 J. B.	M.	10	„	6th	1	9	—	30	25	103°	Knees, ankles	Pericarditis, endocarditis	?	Mitral regurgitation	75	„	—	Was in hospital two years ago with chorea.

42 W. H.	M.	12	„	14th	0	12	—	3	4	101°	Knees	Endo-carditis	Present	„	17	„	—	—
43 T. M.	M	31	„	10th	0	31	Family history of "asthma"	6	8	103°	Shoulders, knees, ankles	—	—	—	23	„	Sodæ sal., pulv. ipecac. co.	—
44 J. S.	M.	30	„	6th	3	23	—	2	8	99°	Wrists, knees, ankles	Endo-carditis	?	Mitral regurgitation, aortic regurgitation	14	„	—	Treated in this hospital for first attack seven years ago.
45 E. H.	F.	35	Nov.	14th	0	35	—	6	8	101°	Wrists fingers	—	—	—	26	„	Sodæ sal.	—
46 E. P.	F.	24	„	6th	6	10	Father epilepsy, mother acute rheumatism	10	15	102°	All large joints	Endo-carditis	?	Mitral regurgitation	29	„	„	—
47 A. H.	F.	17	„	8th	0	17	—	10	21	101·4°	Knees, ankles	„	Present	„	36	„	Sodæ sal., pulv. ipecac. co.	Attack preceded by tonsillitis.
48 J. F.	M.	37	„	4th	0	37	Mother phthisis	4	10	101°	„	Systolic murmur at apex	—	Heart-sounds clear	31	„	Sodæ sal.	A stoker.
49 C. L.	M.	19	„	6th	0	19	—	2	3	101°	Wrists, knees, ankles	Endo-carditis	Present	Mitral regurgitation	11	„	—	—
50 W. M.	M.	32	„	8th	1	29	--	2	4	102°	Left elbow, wrist, fingers	Systolic murmur at apex	—	Heart-sounds clear	10	„	Sodæ sal.	—

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart. Affection.	Heart. In which attack developed.	Heart. State on discharge.	No. of days in hospital.	Result.	Treatment.	Remarks.
51 J. D.	F.	19	Nov.	14th	0	19	Father rheumatism, a brother acute rheumatism	2	5	100°	Left wrist, left ankle	Systolic murmur at apex	—	Heart-sounds clear	9	Recovery	—	—
52 H. W.	M.	19	„	4th	0	19	Father rheumatism, mother rheumatism, a sister acute rheumatism	4	24	103·8°	Right shoulder, knees, ankles	Endocarditis	Present	Mitral regurgitation	38	„	Sodæ sal.	—
53 J. B.	M.	14	„	6th	1	12	Father insane, rheumatism both sides	3	6	100·8°	Ankles.	Systolic murmur at apex	—	Heart-sounds clear	14	„	Tinct. vini perchl.	Pain and swelling of joints off and on since attack two years ago.
54 E. H.	M.	18	Dec.	7th	3	7	Father rheumatism, a brother rheumatism, one sister phthisis	13	10	102·6°	Shoulders, elbows, wrists, knees	Pericarditis, endocarditis	?	Mitral regurgitation, aortic regurgitation	44	„	Alkalies, blister to precordial region	Great pain in precordial region relieved by blisters. Considerable pericardial effusion.

55 —	F.	42	„	7th	3	9	A brother insane, paternal aunt rheumatism	14	5	102°	Knees, ankles	Endocarditis	?	Mitral obstruction and regurgitation	23	„	Sodæ sal.	—
56 E. D.	F.	30	„	4th	1	20	—	7	6	102°	Left knee and ankle	Systolic murmur at all orifices	—	As on admission	20	„	„	—
57 F. B.	M.	48	„	10th	2	10	—	14	16	102·2°	Wrists, knees	—	—	—	39	„	Pulv. ipecac. co., emp. lyttæ	—
58 E. McN.	F.	27	„	4th	0	27	Mother phthisis	2	3	100·4°	Knees, ankles	—	—	—	15	„	—	—
59 W. C.	M.	24	„	21st	1	20	—	2	5	100·6°	Fingers, knees, ankles	Endocarditis	?	Mitral regurgitation	14	„	Sodæ sal.	Attack preceded by tonsillitis.
60 A. S.	M.	18	„	4th	0	18	Father rheumatism, two sisters acute rheumatism	8	6	101°	All large joints	Pericarditis, endocarditis	Present	„	25	„	Brandy	—
61 E. R.	F.	9	„	6th	0	9	—	3	4	103°	Ankles, wrists	Endocarditis	„	„	13	„	—	—
62 S. C.	F.	20	„	14th	0	20	Mother rheumatism	3	5	100°	Shoulders, ankles, knees	„	„	„	17	„	Sodæ sal.	—

TABLE C—*continued.*

No. and name.	Sex.	Age.	Month admitted.	Day of illness admitted.	Previous attacks.	Age when first attacked.	Family history.	Days of fever in hospital.	Days of pain in hospital.	Highest temp.	Joints, &c., affected.	Heart. Affection.	Heart. In which attack developed.	Heart. State on discharge.	No. of days in hospital.	Result.	Treatment	Remarks.
63 K. H.	F.	11	Dec.	4th	0	11	Mother acute rheumatism, two paternal aunts phthisis	4	5	103·4°	Knees	—	—	—	20	Recovery	Sodæ sal.	—
64 J. A.	M.	22	„	7th	0	22	Father acute rheumatism	2	6	104°	Knees, ankles	Endocarditis	Present	Mitral regurgitation	14	„	„	—
65 H. S.	M.	22	„	6th	5	11	—	4	8	100·2°	Wrists, knees, ankles	„	?	Mitral regurgitation, aortic obstruction and regurgitation	15	„	—	—
66 S. H.	M.	29	„	8th	1	26	Father rheumatism, mother and a sister acute rheumatism	5	8	102°	Left wrist, shoulders	—	—	—	20	„	Sodæ sal	—

67 G. R.	F.	13	„	10th week	0	13	—	4	5	102°	Knees, ankles	Pericarditis, endocarditis	Present	Mitral regurgitation	44	„	—	Attack complicated with pleuro-pneumonia of left base.
68 E. R.	F.	18	„	21st	0	18	Father epilepsy, mother's family phthisis, maternal uncle insane, one sister chorea	14	10	104°	All large joints	„	„	„	53	„	—	Pleuro-pneumonia of left base occurring as a complication.
69 E. V.	F.	42	„	6th	0	42	A brother acute rheumatism	42	31	102·4°	Fingers, wrists, knees	„	„	Mitral regurgitation, aortic regurgitation	85	„	Sodæ sal.	Patient remained many weeks in a very prostrate condition.

Table D.—*Chorea.*

During the years 1881-2-3-4-5-6-7 146 cases of chorea have been treated in the hospital. A summary of these cases is prefixed to the analysis of the cases of the year 1887.

Inheritance.

Rheumatism	47
Neurosis	49
Phthisis	14
Gout	4

Sex.

	Males.	Females.
1881	6	14
1882	4	18
1883	3	14
1884	11	17
1885	7	12
1886	5	11
1887	12	12
	48	98

Ages.

	Under 5.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.
1881	0	4	17	1	0	0	0
1882	0	4	13	2	1	0	0
1883	1	4	10	2	0	0	0
1884	0	8	17	2	0	0	1
1885	0	3	14	1	0	1	0
1886	0	6	8	2	0	0	0
1887	2	5	17	0	0	0	0
	3	34	96	10	1	1	1

Rheumatism.—There was a history of acute rheumatism in 35 cases. The relation of the acute rheumatism to the chorea was as follows:—In 9 cases the rheumatism was suggested as the cause; in 11 cases the attack of rheumatism has developed during the course of the chorea; in the remaining 15 cases there was a distinct interval of good health between the rheumatism and the chorea, viz. 6 years, 5 years, 4 years, 3 years (2), 2 years, 1 year (2), 7 months, 6 months, 4 months, 3 months, 2 months, 6 weeks, 1 month.

Causes.—In 94 cases of the whole the causes assigned by the friends were fright, sorrow, or overwork at school.

Heart.—In 20 cases a mitral murmur, constant in force and rhythm, was audible; of these 20 cases 11 had suffered acute rheumatism previously. In 64 cases a murmur was heard over the apex occasionally only, the murmur varying in time and intensity, and having quite disappeared at the discharge of the patient.

TABLE D—*continued.*

No. and name.	Family history.	Previous illness, with special reference to rheumatism.	Previous chorea.	Sex.	Age.	Heart condition.	Part of body affected	Cause.	Result.	Days in hosp.	Remarks.
13 E. K.	A brother "fits," another brother chorea	Measles and whooping-cough	4	F.	17	Action uneven, with occasional systolic murmur at apex	General movements	—	Relieved	52	Movements remarkably rhythmical. Common sensibility, and that to pain absent in lower extremities, and much dulled elsewhere.
14 A. B.	Father "rheumatism," and phthisis father's family	Acute rheumatism	"Several"	M.	13	Thrill and loud pre-systolic murmur	Left-sided movements	Frightened by being chased	Unrelieved	32	In the last 7 years repeated attacks of chorea. Had been in several hospitals. Movements always most marked on left.
15 M. P.	—	—	—	F.	4	—	Movements general	Frightened by being run after by mother of child she had kicked	Relieved	23	Speech unintelligible.
16 D. L.	Father acute rheumatism	—	1	M.	12	—	"	Thrown out of a cart and much frightened	"	61	In hospital with chorea in 1885.
17 W. H. M.	—	—	—	M.	9	Occasional systolic murmur at apex	Movements slight, general	—	"	26	—

18 C. P.	—	—	—	M.	13	Action irregular, systolic murmur at apex not constant	Movements general, most marked left side	Overwork at school	Recovery	12	—
19 A. G.	—	Scarlet fever	—	F.	11	Systolic murmur at apex, not conducted	Left arm and leg	Frightened by being told that a lamp would explode	Relieved	48	—
20 L. M.	—	—	—	F.	16	—	Movements general	Knocked down by a cart	„	30	—
21 A. M.	—	Acute rheumatism	—	M.	9	Aortic incompetence, mitral incompetence	Movements general, facial muscles much affected	Frightened by brother	„	57	Acute rheumatism 6 weeks before admission.
22 J. D.	Father "rheumatism"	Measles	—	M.	11	—	Movements slight, general	Frequently caned at school	„	23	Caned daily at school for being late and forgetting his work.
23 J. W. K.	—	—	—	M.	14	Systolic murmur at apex, pulse irregular	Movements general, most marked right side	Overwork	„	12	Learning shorthand, singing, and Latin. Occupied after working hours at a doctor's surgery in this manner each evening.
24 R. S.	A sister chorea, phthisis mother's family	—	—	F.	16	—	Movements general	—	Unrelieved	7	Chorea of between 2 and 3 years' duration. Speech much affected. In 4th standard at school.

TABLE D—*continued.*

No. and name.	Family history.	Previous illness, with special reference to rheumatism.	Previous chorea.	Sex.	Age.	Heart condition.	Part of body affected	Cause.	Result.	Days in hosp.	Remarks.
13 E. K.	A brother "fits," another brother chorea	Measles and whooping-cough	4	F.	17	Action uneven, with occasional systolic murmur at apex	General movements	—	Relieved	52	Movements remarkably rhythmical. Common sensibility, and that to pain absent in lower extremities, and much dulled elsewhere.
14 A. B.	Father "rheumatism," and phthisis father's family	Acute rheumatism	"Several"	M.	13	Thrill and loud pre-systolic murmur	Left-sided movements	Frightened by being chased	Unrelieved	32	In the last 7 years repeated attacks of chorea. Had been in several hospitals. Movements always most marked on left.
15 M. P.	—	—	—	F.	4	—	Movements general	Frightened by being run after by mother of child she had kicked	Relieved	23	Speech unintelligible.
16 D. L.	Father acute rheumatism	—	1	M.	12	—	"	Thrown out of a cart and much frightened	"	61	In hospital with chorea in 1885.
17 W. H. M.	—	—	—	M.	9	Occasional systolic murmur at apex	Movements slight, general	—	"	26	—

18 C. P.	—	—	—	M.	13	Action irregular, systolic murmur at apex not constant	Movements general, most marked left side	Overwork at school	Recovery	12	—
19 A. G.	—	Scarlet fever	—	F.	11	Systolic murmur at apex, not conducted	Left arm and leg	Frightened by being told that a lamp would explode	Relieved	48	—
20 L. M.	—	—	—	F.	16	—	Movements general	Knocked down by a cart	„	30	—
21 A. M.	—	Acute rheumatism	—	M.	9	Aortic incompetence, mitral incompetence	Movements general, facial muscles much affected	Frightened by brother	„	57	Acute rheumatism 6 weeks before admission.
22 J. D.	Father "rheumatism"	Measles	—	M.	11	—	Movements slight, general	Frequently caned at school	„	23	Caned daily at school for being late and forgetting his work.
23 J. W. K.	—	—	—	M.	14	Systolic murmur at apex, pulse irregular	Movements general, most marked right side	Overwork	„	12	Learning shorthand, singing, and Latin. Occupied after working hours at a doctor's surgery in this manner each evening.
24 R. S.	A sister chorea, phthisis mother's family	—	—	F.	16	—	Movements general	—	Unrelieved	7	Chorea of between 2 and 3 years' duration. Speech much affected. In 4th standard at school.

TABLE E.—*List of Deaths in the Medical Wards.*

	Males.		Females.
GENERAL DISEASES:			
Scarlet fever	2	...	0
Enteric fever	2	...	1
Diphtheria	8	...	12
Syphilis	0	...	1
Acute rheumatism	1	...	0
Tuberculosis	4	...	2
DISEASES OF THE NERVOUS SYSTEM:			
Meningitis	1	...	1
Cerebral hæmorrhage	1	...	1
„ abscess	0	...	1
Hydrocephalus	1	...	0
Hemiplegia	1	...	0
Softening	0	...	1
Chronic myelitis	1	...	0
Infantile convulsions	1	...	0
Mania	0	...	2
Delirium tremens	1	...	0
DISEASES OF THE CIRCULATORY SYSTEM:			
Dilatation of heart	2	...	2
Mitral disease	5	...	3
Aortic disease	2	...	1
Aneurysm	2	...	1
DISEASES OF THE RESPIRATORY SYSTEM:			
Acute bronchitis	1	...	1
Chronic bronchitis	0	...	5
Pneumonia (lobular)	5	...	4
„ (lobar)	8	...	6
Empyema	2	...	1
Phthisis	4	...	9
Gangrene of lung	1	...	0
Malignant disease of lung	0	...	1
Mediastinal tumour	0	...	1
DISEASES OF THE DIGESTIVE SYSTEM:			
Carcinoma of stomach	1	...	1
Duodenal ulcer	1	...	0
Gastric ulcer	1	...	1
Diarrhœa	4	...	4
Typhlitis	2	...	0

	Males.		Females.
Diseases of the Digestive System—*continued.*			
Malignant disease of colon	2	...	0
„ „ of rectum	1	...	0
Intussusception	1	...	0
Cirrhosis of liver	2	...	0
Carcinoma of liver	1	...	0
Addison's disease	1	...	0
Diseases of the Urinary System:			
Acute nephritis	3	..	1
Chronic nephritis	6	...	3
Renal calculus	1	...	0
Diseases of Women:			
Carcinoma uteri	0	...	1
Total	83	...	68

SURGICAL REGISTRAR'S REPORT FOR THE YEAR 1887.

By ALFRED E. TAYLOR.

The total number of cases under treatment in the surgical wards during the past year was 1097, viz.:

	Males.	Females.	Total.
Remaining in hospital December 31st, 1886	42	27	69
Admitted during the year 1887			1028
			1097

Of these there were:			
Discharged, cured or relieved	575	350	925
" unrelieved	28	15	43
Transferred to the medical wards	5	3	8
Died	35	16	51
In hospital December 31st, 1887	43	27	70
			1097

The mortality during the year was 4·64 per cent.

TABLE I.—*Showing the total number of Cases of each Disease or Injury which were Discharged or Died during the year* 1887.

DISEASES.	Total.	Relieved.		Not relieved.		Died.		In hosp. 31st Dec., '87	
		M.	F.	M.	F.	M.	F.	M.	F.
Scarlatina	2	1	...	...	...	...	...	1	...
Erysipelas:									
i. Admitted:									
a. Cutaneous	3	2	1	...	...	...	...	...	...
ii. Arising in hospital:									
a. Cutaneous	3	2	1	...	...	...	...	...	...
Septicæmia	1	...	...	...	...	1	...	...	...
Pyæmia	2	1	...	...	...	...	...	1	...
Rickets	4	3	1	...	...	...	...	...	...
RHEUMATISM:									
a. Acute	1	1	...	...	...	...	...	...	...
SYPHILIS:									
Squamæ	5	2	1	...	...	...	...	...	2
Ulcers	5	2	3	...	...	...	...	...	...
Condylomata	2	1	1	...	...	...	...	...	...
Stricture of rectum	1	...	1	...	...	...	...	...	...
Gummata	9	2	2	3	...	1	...	1	...
TUMOURS:									
Scirrhus:									
i. *Primary:*									
Breast	5	...	5	...	...	...	...	...	...
ii. *Secondary:*									
Breast	3	...	2	...	1	...	...	...	...
Epithelioma:									
Lip	2	1	1	...	...	...	...	...	...
Tongue	1	...	...	1	...	...	...	...	...
Œsophagus	2	...	...	...	...	2	...	...	...
Cæcum	1	...	...	...	...	...	1	...	...
Rectum	1	...	...	...	...	...	1	...	...
Bladder	1	...	...	...	...	...	1	...	...
Cheek	2	1	1	...	...	...	...	...	...
Great toe	1	...	...	...	...	1	...	...	...
Pinna	1	...	1	...	...	...	...	...	...
Lower jaw	1	...	...	1	...	...	...	...	...
Scalp and cervical glands	2	...	...	1	1	...	...	...	...
Sarcoma:									
Breast	3	...	2	...	...	...	...	...	1
Antrum	2	1	...	...	1	...	...	...	...
Epulis	1	1	...	...	...	...	...	...	...
Lymphadenoma	1	1	...	...	...	...	...	...	...
Myxoma:									
Orbit	1	1	...	...	...	...	...	...	...
Lipoma:									
Back	5	3	2	...	...	...	...	...	...
Abdominal wall	1	...	...	1	...	...	...	...	...

TABLE I—*continued.*

DISEASES.	Total.	Relieved.		Not relieved.		Died.		In hosp. 31st Dec.,'87	
		M.	F.	M.	F.	M.	F.	M.	F.
TUMOURS—*continued.*									
Fibroma:									
Arm	1	...	1	..	...	...	...	...	...
Adeno-fibroma:									
Breast	2	...	2	...	...	...	...	...	...
Papilloma:									
Roof of mouth	1	...	1	...	...	...	...	...	...
Cysts:									
i. *Sebaceous:*									
Scalp	1	...	1	...	...	...	...	...	...
Forehead	1	1	...	...	...	...	...	...	...
Axilla	1	1	...	...	...	...	...	...	...
ii. *Serous:*									
Breast	1	...	1	...	...	...	...	...	...
Ranula	1	...	1	...	...	...	...	...	...
Bursal	2	...	1	1	...	...	...	...	...
MALFORMATIONS:									
Harelip	3	1	1	...	...	1	...	...	...
Cleft palate	5	2	2	...	...	1	...	...	...
Spina bifida	1	...	...	...	...	...	...	...	1
Genu valgum	6	1	5	...	...	...	...	...	...
Talipes varus	4	4	...	...	...	...	...	...	...
„ equino-varus	3	2	...	...	...	...	...	...	1
„ planus	10	5	5	...	...	...	...	1	...
„ equinus	1	1	...	...	...	...	...	...	...
Supernumerary digits	2	...	2	...	...	..	...	...	...
Hammer-toe	2	2	...	...	...	...	...	...	...
DISEASES OF THE NERVOUS SYSTEM:									
Meningitis	1	...	...	...	...	1	...	...	...
Charcot's disease	1	...	...	1	...	...	...	...	...
Epilepsy	1	...	...	...	...	...	...	1	...
Hysteria	2	1	1	...	...	...	...	...	...
Infantile paralysis	3	3	...	...	...	...	...	...	...
Sciatica	5	2	1	1	...	1	...	...	...
Delirium tremens	1	...	...	...	...	1	...	...	...
DISEASES OF THE EAR:									
Mastoid abscess	3	2	1	...	...	...	...	...	...
Polypus	1	1	...	...	...	...	...	...	...
DISEASES OF THE EYE:									
Conjunctivitis	2	1	1	...	...	...	...	...	...
Iritis	2	1	1	...	...	...	...	...	...
Kerato-iritis	2	1	...	...	...	...	...	1	...
Corneal ulcer	7	4	3	...	...	...	...	...	...
Cataract	14	6	8	...	...	...	...	...	...
Optic neuritis	3	2	...	1	...	...	...	...	...
Shrivelled globe	1	...	1	...	...	...	...	...	...
Shot embedded in fundus	1	1	...	...	...	...	...	...	...

TABLE I—*continued.*

DISEASES.	Total.	Relieved.		Not relieved.		Died.		In hosp. 31st Dec., '87	
		M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF APPENDAGES OF EYE AND ORBIT:									
Abscess of eyelid	1	...	1	...	...	...	...	...	...
Ptosis	1	1	...	...	...	...	...	...	...
Strabismus	1	1	...	...	...	...	...	...	...
DISEASES OF THE NOSE:									
Polypus	1	...	1	...	...	...	...	...	...
Adenoid vegetations	3	1	2	...	...	...	...	...	...
Ozæna	1	...	...	...	...	...	...	...	1
DISEASES OF THE CIRCULATORY SYSTEM:									
Thrombosis and phlebitis	3	...	2	...	...	...	...	1	...
Varicose veins	3	2	...	1	...	...	...	...	...
Hæmatoma	1	1	...	...	...	...	...	...	...
Wound of brachial artery	1	1	...	...	...	...	...	...	...
Aneurysm	1	...	...	1	...	...	...	...	...
White leg	1	...	...	...	...	...	...	...	1
Epistaxis	1	1	...	...	...	...	...	...	...
DISEASES OF THE RESPIRATORY SYSTEM:									
Phthisis	3	1	...	...	...	2	...	...	...
DISEASES OF THE ABSORBENT SYSTEM:									
Glands:									
i. Inflammation	13	6	5	1	...	...	...	...	1
ii. Suppuration	22	10	10	1	1	...	...	...	..
DISEASES OF THE DIGESTIVE SYSTEM:									
Stomatitis	1	1	...	...	...	...	...	...	...
Tongue:									
Glossitis	1	1	...	...	...	...	...	...	...
Epithelioma	1	...	...	1	...	...	...	...	...
Œsophagus:									
Stricture	2	...	...	...	...	2	...	...	...
Intestines:									
Malignant disease	1	...	...	...	...	...	1	...	...
Hernia:									
a. Reducible	8	6	2	...	...	...	...	...	...
b. Irreducible	3	...	1	...	...	...	...	...	2
c. Incarcerated	2	1	1	...	...	...	...	...	..
d. Strangulated:									
i. Inguinal	2	1	...	...	...	1	...	...	...
ii. Femoral	5	1	3	...	...	...	1	...	...

TABLE I—*continued.*

DISEASES.	Total.	Relieved.		Not relieved.		Died.		In hosp. 31st Dec.,'87	
		M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE DIGESTIVE SYSTEM—*continued.*									
Rectum and Anus:									
Carcinoma	2	...	...	1	...	...	1	...	...
Stricture (syphilitic)	1	...	1	...	...	...	...	...	...
Fistula	18	11	4	1	...	2	...	...	...
Hæmorrhoids	18	9	7	2	...	...	...	...	...
Fissure	4	2	2	...	...	...	...	...	...
Prolapsus	5	...	3	...	2	...	...	...	..
Anal ulcer	1	1	...	...	...	...	...	...	...
Fæcal calculus in vermiform appendix: Peritonitis	1	...	...	...	...	1	...	...	...
DISEASES OF THE URINARY ORGANS:									
Kidney:									
Calculus	1	..	...	...	...	...	1	...	...
Bladder:									
Cystitis	6	4	2	...	...	...	...	...	...
Epithelioma	1	...	...	...	...	...	1	...	...
Calculus	4	...	2	...	...	1	...	1	...
Incontinence	3	1	1	...	1	...	...	...	...
Prostate:									
Hypertrophy of	2	1	...	1	...	...	...	...	...
Urethra:									
Calculus impacted	2	2	...	...	...	...	...	...	...
Ruptured urethra	1	1	...	...	...	...	...	...	...
Gonorrhœa and its Complications:									
Gonorrhœa and balanitis	10	10	...	...	...	...	...	...	...
Bubo	16	9	5	...	...	...	...	2	...
Stricture of urethra	29	25	...	...	...	1	...	3	...
Venereal warts	2	...	2	...	...	...	...	...	...
Epididymitis	13	11	...	...	...	...	...	2	...
Orchitis	10	10	...	...	...	...	...	...	...
Perineal fistulæ	2	2	...	...	...	...	...	...	...
Prostatic abscess	1	1	...	...	...	...	...	...	...
DISEASES OF THE GENERATIVE SYSTEM:									
MALE:									
Penis:									
Chancre	4	4	...	...	...	...	...	...	...
Chancroid	6	5	...	...	...	...	...	1	...
Phimosis (congenital)	6	5	...	...	...	...	...	1	...
" (acquired)	9	9	...	...	...	...	...	...	...
Paraphimosis	1	1	...	...	...	...	...	...	...
Tunica vaginalis:									
Hydrocele	4	3	...	...	...	...	...	1	...

TABLE I—*continued.*

DISEASES.	Total.	Relieved.		Not relieved.		Died.		In hosp. 31st Dec., '87	
		M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE GENERATIVE SYSTEM—*continued.*									
Testis:									
Fibroid	1	1	...	...	...	...	...	...	...
Tubercular	2	1	...	1	...	...	...	...	...
Cord:									
Varicocele	4	4	...	...	...	...	...	...	...
Spermatocele	1	1	...	...	...	...	...	...	...
FEMALE:									
Labium:									
Abscess	2	...	2	...	...	...	...	...	...
Vagina:									
Vesico-vaginal fistula	1	...	...	...	...	...	...	...	1
Breast:									
Abscess	2	...	2	...	...	...	...	...	...
Lobular induration	1	...	1	...	...	...	...	...	...
Strumous disease of	1	...	1	...	...	...	...	...	...
Cyst	1	...	1	...	...	...	...	...	...
Adeno-fibroma	2	...	2	...	...	...	...	...	...
Sarcoma	3	...	2	...	...	...	...	...	1
Scirrhus:									
i. Primary	5	...	5	...	...	...	...	...	...
ii. Secondary	3	...	2	...	1	...	...	...	...
Ovarian cyst	3	...	...	...	...	...	3	...	...
DISEASES OF THE BONES:									
Periostitis:									
i. Acute:									
Humerus	1	1	...	...	...	...	...	...	...
Tibia	1	1	...	...	...	...	...	...	...
Femur	2	1	1	...	...	...	...	...	...
ii. Chronic:									
Lower maxilla	1	1	...	...	...	...	...	...	...
Femur	5	4	1	...	...	...	...	...	...
Tibia	4	2	1	...	...	...	...	...	1
Fibula	1	...	...	...	...	...	...	1	...
Metatarsus	1	...	...	...	...	...	...	...	1
Exostosis:									
Multiple	1	...	...	1	...	...	...	...	...
Femur	2	...	2	...	...	...	...	...	...
Necrosis:									
Lower jaw	9	7	1	...	...	..	...	...	1
Pubes	1	...	...	...	1	...	...	...	...
Humerus	1	1	...	...	...	...	...	...	...
Phalanges	1	1	...	...	...	...	...	...	...
Femur	4	3	...	...	...	...	...	1	...
Tibia	2	2	...	...	...	...	...	...	...
Fibula	2	1	...	...	...	...	...	1	...
Metatarsal of great toe	1	1	...	...	...	...	...	...	...

TABLE I—*continued.*

DISEASES.	Total.	Relieved.		Not relieved.		Died.		In hosp. 31st Dec.,'87	
		M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF BONES—*continued.*									
Caries:									
Spine	47	21	19	2	...	1	...	3	1
Ilium	1	...	...	...	1	...	...	...	...
Carpus	1	...	1	...	...	...	...	...	...
Tarsus	1	...	1	...	...	...	...	...	...
DISEASES OF THE JOINTS:									
Synovitis:									
i. Acute:									
Knee	14	10	3	...	...	...	...	1	...
Ankle	5	5	...	...	...	...	...	...	...
Elbow	3	2	...	...	...	...	...	1	...
Wrist	2	2	...	...	...	...	...	...	...
ii. Chronic:									
Knee	10	3	3	2	...	...	...	2	...
Ankle	3	1	1	...	...	...	...	1	...
Morbus coxæ	46	20	14	1	4	1	...	3	3
Arthritis:									
i. Acute:									
Carpus	1	1	...	...	...	...	...	...	...
Knee	2	...	1	...	...	1	...	...	...
ii. Strumous:									
Elbow	2	...	2	...	...	...	...	...	...
Wrist	1	...	1	...	...	...	...	...	...
Knee	13	7	4	...	...	1	...	...	1
Ankle	5	1	3	...	...	...	...	...	1
Chronic rheumatic arthritis	1	1	...	...	...	...	...	...	...
Ankylosis:									
i. Fibrous:									
Temporo-maxillary	1	...	1	...	...	...	...	...	...
Shoulder	1	...	1	...	...	...	...	...	...
Elbow	2	1	1	...	...	...	...	...	...
Knee	3	1	2	...	...	...	...	...	...
Loose cartilage in knee-joint	2	...	1	...	...	...	...	1	...
DISEASES OF MUSCLES, FASCIÆ, AND TENDONS:									
Spasmodic torticollis	1	1	...	...	...	...	...	...	...
Lateral curvature of spine	7	2	5	...	...	...	...	...	...
Ruptured muscles	1	...	1	...	...	...	...	...	...
Bursæ:									
Inflammation:									
i. Acute:									
Olecranon	4	2	1	...	...	...	...	1	...
Patella	7	3	4	...	...	...	...	...	...
ii. Chronic:									
Patella	10	3	5	...	...	...	...	...	2
Bunion	2	2	...	...	...	...	...	...	...

TABLE I—*continued.*

DISEASES.	Total.	Relieved.		Not relieved.		Died.		In hosp. 31st Dec.,'87	
		M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE:									
Cellulitis:									
Face	1	1	...	...	...	...	...	...	...
Scalp	1	...	1	...	...	...	...	...	...
Upper limb	16	11	4	...	...	...	...	1	...
Lower limb	8	4	3	...	...	...	...	...	1
Abscess:									
i. Acute:									
Scalp	2	2	...	...	...	...	...	...	...
Jaw	2	1	1	...	...	...	...	...	...
Chest	1	...	...	1	...	...	...	...	...
Abdomen	1	...	1	...	...	...	...	...	...
Axilla	1	...	1	...	...	...	...	...	...
Pubes	1	...	1	...	...	...	...	...	...
Ischio-rectal fossa	5	2	2	...	...	...	...	1	...
Arm	1	1	...	...	...	...	...	...	...
Wrist	1	...	1	...	...	...	...	...	...
Hand	9	8	1	...	...	...	...	...	...
Leg	1	1	...	...	...	...	...	...	...
Foot	5	3	2	...	...	...	...	...	...
ii. Chronic:									
Neck	1	...	1	...	...	...	...	...	...
Arm	1	...	1	...	...	...	...	...	...
Loin	1	1	...	...	...	...	...	...	...
Perinæum	1	1	...	...	...	...	...	...	...
Thigh	4	1	2	...	...	...	...	1	...
Leg	1	1	...	...	...	...	...	...	...
Gangrene:									
i. Moist	1	...	...	...	...	1	...	...	...
ii. Diabetic	1	...	1	...	...	...	...	...	...
Sinuses:									
Parotid fistula	1	...	1	...	...	...	...	...	...
Arm	1	...	1	...	...	...	...	...	...
Loin	1	...	...	1	...	...	...	...	...
Leg	1	1	...	...	...	...	...	...	...
Ulcers:									
i. Simple:									
Leg	4	1	3	...	...	...	...	...	...
Foot	1	1	...	...	...	...	...	...	...
ii. Varicose:									
Leg	7	1	6	...	...	...	...	...	...
iii. Strumous:									
Leg	1	...	1	...	...	...	...	...	...
iv. Traumatic:									
Foot	3	1	2	...	...	...	...	...	...

TABLE I—*continued.*

DISEASES.	Total.	Relieved.		Not relieved.		Died.		In hosp. 31st Dec., '87.	
		M.	F.	M.	F.	M.	F.	M.	F.
DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE—*continued.*									
Pemphigus	1	1	...	...	...	...	...	...	...
Eczema	2	1	1	...	...	...	...	...	...
Lupus	1	...	1	...	...	...	...	...	...
Carbuncle	1	1	...	...	...	...	...	...	...
Rodent ulcer	3	1	1	...	...	1	...	...	...
Suppurating corn	2	2	...	...	...	...	...	...	...
Ingrowing toe-nail	2	2	...	...	...	...	...	...	...
UNCLASSIFIED:									
Needle in hand	2	1	...	...	1	...	...	...	...
Cystic bronchocele	1	...	...	...	...	...	...	...	1
Destitution	1	1	...	...	...	...	...	...	...
INJURIES.									
Burns:									
i. General	5	...	1	...	...	2	1	...	1
ii. Local	10	7	2	...	...	...	...	1	...
Scalds:									
i. General	3	...	...	...	...	1	...	1	1
ii. Local	4	2	2	...	...	...	...	...	...
Contusions:									
General	1	...	1	...	...	...	...	...	...
Immersion:									
Attempted suicide	1	...	1	...	...	...	...	...	...
Poisoning:									
Accidental	5	4	1	...	...	...	...	...	...
Injuries of head:									
Scalp wounds	28	18	9	...	...	...	1	...	...
Fractures (vertex)	1	...	...	...	...	1	...	...	...
" (base)	5	...	...	...	...	4	1	...	...
Concussion of brain	27	22	5	...	...	...	...	...	...
Meningeal hæmorrhage	1	...	...	...	...	1	...	...	...
Injuries of face:									
Contusion	1	1	...	...	...	...	...	...	...
Wound (contused)	7	5	1	...	...	...	...	1	...
" (incised)	1	1	...	...	...	...	...	...	...
Fractured jaw	3	1	2	...	...	...	...	...	...

TABLE I—*continued.*

INJURIES.	Total.	Relieved.		Not relieved.		Died.		In hosp. 31st Dec., '87	
		M.	F.	M.	F.	M.	F.	M.	F.
Injuries of eye:									
Wound of eyelid (contused)	4	2	2	...	...	...	...	...	...
„ cornea (punctured)	1	1	...	...	...	...	...	...	...
Injuries of neck:									
Cut throat (suicide)	3	3	...	...	...	...	...	...	...
Injuries of back:									
Concussion of spine	1	...	1	...	...	...	...	...	...
Contusions	8	7	1	...	...	...	...	...	...
Injuries of chest:									
Contusion	2	1	1	...	...	...	...	...	...
Wound	1	1	...	...	...	...	...	...	...
Fractured ribs	12	7	3	...	...	1	1	...	...
Gunshot wound of thorax	1	1	...	...	...	...	...	...	...
Injuries of abdomen:									
Contusion	4	2	2	...	...	...	...	...	...
Wounds	1	1	...	...	...	...	...	...	...
Injuries of pelvis and genitals:									
Lacerated wound of perinæum	1	...	...	...	...	...	...	1	...
Fractured pelvis	2	...	1	...	...	1	...	...	...
Injuries of upper extremity:									
Contusion	3	2	1	...	...	...	...	...	...
Wounds (contused)	1	1	...	...	...	...	..	...	...
„ (incised)	1	...	...	...	...	...	...	1	...
„ (punctured)	1	...	1	...	...	...	...	...	...
„ (lacerated)	1	1	...	...	...	...	...	...	...
Crushed hand	3	2	...	...	...	1	...	...	...
„ fingers	5	5	...	...	...	...	...	...	...
Fractures:									
Colles'	4	1	2	...	...	1	...	...	...
„ (compound)	2	1	1	...	...	...	...	...	...
Clavicle	1	1	...	...	...	...	...	...	...
Humerus	2	2	...	...	...	...	...	...	...
Radius	2	2	...	...	...	...	...	...	...
„ (compound)	2	1	...	...	...	...	...	...	1
Ulna	3	2	1	...	...	...	...	...	...
Injuries of lower extremity:									
Contusions	19	14	3	...	...	...	...	2	...
Wounds (lacerated)	1	1	...	...	...	...	...	...	...
„ (incised)	2	1	1	...	...	...	...	...	...
„ (contused)	3	3	...	...	...	...	...	...	...
Sprained ankle	19	12	7	...	...	...	...	...	...
Crushed feet	5	4	...	...	...	...	...	1	...
Fractures (simple):									
Femur (intracapsular)	11	2	8	...	...	...	1	...	...

TABLE I—*continued.*

INJURIES.	Total.	Relieved.		Not relieved.		Died.		In hosp. 31st Dec.,'87	
		M.	F.	M.	F.	M.	F.	M.	F.
Injuries of lower extremity—*continued.*									
Fractures (simple):									
Femur (shaft)	7	6	1	...	...	...	...	...	...
Patella	5	5	...	...	...	...	...	...	...
Tibia	8	6	1	...	...	1	...	...	...
Fibula	6	4	1	...	...	...	...	1	...
Tibia and fibula	9	7	1	...	...	...	...	1	...
Pott's	4	2	1	...	...	...	1	...	...
Fractures (compound):									
Femur	1	...	...	...	...	...	1	...	...
Tibia	1	1	...	...	...	...	...	...	...
Tibia and fibula	4	1	...	...	...	...	2	1	...
Pott's	2	2	...	...	...	...	...	...	...
Dislocations:									
Shoulder	5	4	1	...	...	...	...	...	...
Elbow	1	...	...	...	...	...	...	...	1
Great toe	1	1	...	...	...	...	...	...	...
"Run over"—Shock	4	1	1	...	...	1	1	...	...

TABLE II.—*Operations.*

OPERATIONS.	Total.	Discharged.		Died.		In hosp. 31st Dec., 1887.		Remarks.
		M.	F.	M.	F.	M.	F.	
HEAD AND NECK:								
For epithelioma of lip	3	3	...	...	...	...	...	
„ „ face	2	1	1	...	...	...	...	
„ „ neck	1	...	1	...	...	...	...	
„ „ pinna	1	...	1	...	...	...	...	
„ harelip	2	...	1	...	1	...	...	
„ ranula	1	...	1	...	...	...	...	
„ epulis	1	1	...	...	...	...	...	
„ ankylosis of lower jaw	1	...	1	...	...	...	...	Excision of condyle.
„ mastoid abscess	1	1	...	...	...	...	...	
„ obstruction of ant. nares	1	...	...	...	...	...	1	Removal of inferior turbinated bone.
„ adenoid vegetations in naso-pharynx	3	1	2	...	...	...	...	Curetting.
„ diphtheria	1	...	...	...	1	...	...	Tracheotomy.
EYES:								
For cataract	10	5	5	...	...	...	...	
„ internal strabismus	3	3	...	...	...	...	...	
„ cyst of eyelid	1	1	...	...	...	...	...	
Excision of globe	3	2	1	...	...	...	...	
THORACIC REGION:								
For sebaceous cyst in axilla	1	...	1	...	...	...	...	
„ empyema	1	1	...	...	...	...	...	Excision of portion of ribs.
„ lobular induration of breast	1	...	1	...	...	...	...	Excision.
„ adenoma of breast	1	...	1	...	...	...	...	„
„ sarcoma „	2	...	2	...	..	...	...	Amputation.
„ scirrhus „	8	...	8	...	...	...	...	„
„ secondary cancerous glands	1	...	1	...	...	...	...	
„ lipoma of back	1	1	...	...	...	...	...	Removal.
ABDOMINAL REGION:								
For radical cure of hernia	2	2	...	...	...	...	...	
„ irreducible femoral hernia	1	...	1	...	...	...	...	
„ strangulated inguinal hernia	2	1	...	1	...	...	...	
„ strangulated femoral hernia	5	1	3	...	1	...	...	
„ spinal caries	4	4	...	...	...	...	...	
„ malignant disease of œsophagus	2	...	...	2	...	...	...	Gastrostomy.

TABLE II—*continued.*

OPERATIONS.	Total.	Discharged.		Died.		In hosp. 31st Dec., 1887.		Remarks.
		M.	F.	M.	F.	M.	F.	
ABDOMINAL REGION — *continued.*								
Abdominal section	3	...	2	1	...	...	...	1 for encysted peritonitis, 1 for hydatid of liver.
Ovariotomy	3	...	...	...	3	...	...	
ABOUT RECTUM AND ANUS:								
For hæmorrhoids	10	6	4	...	...	...	...	
„ fistula in ano	18	15	3	...	...	...	...	
„ fissure	3	...	3	...	...	...	...	
„ condylomata	2	1	1	...	...	...	...	
„ stricture of rectum	1	...	1	...	...	...	...	Dilatation.
„ prolapsus ani	1	...	1	...	...	...	...	
„ malignant disease of rectum	1	...	...	...	1	...	...	Excision of five inches of rectum with portion of Douglas's pouch of peritoneum.
ON THE GENITO-URINARY ORGANS:								
For phimosis	22	22	...	...	...	...	...	
„ paraphimosis	2	2	...	...	...	...	...	
„ venereal warts	1	...	1	...	...	...	...	
„ urethral calculus	2	2	...	...	...	...	...	
„ vesical „	4	...	2	1*	...	1	...	2 lithotrity. *1 suprapubic lithotomy (died), 1 median lithotomy.
„ stricture of urethra (dilatation)	7	7	...	...	...	...	...	
„ stricture of urethra (internal urethrotomy)	6	5	...	...	...	1	...	
„ stricture of urethra (external urethrotomy)	1	1	...	...	...	...	...	
„ caries of pelvis	1	...	1	...	...	...	...	
„ varicocele	5	5	...	...	...	...	...	
Castration	2	2	...	...	...	...	...	1 fibroid testis, 1 tubercular testis.
ON UPPER LIMB:								
For wound of brachial artery	1	1	...	...	...	...	...	Ligature.
„ necrosis of humerus	1	...	1	...	...	...	...	Sequestrotomy.
„ fibrous ankylosis of elbow	1	...	1	...	...	...	...	
„ compound dislocation of elbow	1	...	...	...	...	...	1	Excision of elbow.
„ contracted finger	1	1	...	...	...	...	...	
„ lipoma of shoulder	1	1	...	...	...	...	...	Removal.
„ fibroma of arm	1	...	1	...	...	...	...	„

TABLE II—*continued.*

OPERATIONS.	Total.	Discharged.		Died.		In hosp. 31st Dec., 1887.		Remarks.
		M.	F.	M.	F.	M.	F.	
ON LOWER LIMB:								
For housemaid's knee	6	...	6	...	...	...	...	Incision and drainage.
„ suppurating bubo, ligature of femoral artery and vein	1	...	...	1	...	...	...	
„ in-growing toe-nail	1	1	...	...	...	...	...	
„ necrosis of femur	3	3	...	...	...	...	...	Sequestrotomy.
„ „ tibia	2	2	...	...	...	...	...	„
„ abscess in head of tibia	1	1	...	...	...	...	...	Trephining.
„ necrosis of fibula	2	1	...	...	..	1	...	Excision of shaft.
„ ostitis of metatarsal of great toe	1	...	...	...	...	...	1	Exploration.
„ morbus coxæ	11	5	3	...	...	1	2	4 excision, 7 exploration.
„ contracted hip	1	1	...	...	...	...	...	
„ pulpy disease of knee	2	1	1	...	...	...	...	1 excision, 1 incision.
„ acute suppurative arthritis of knee-joint	2	...	...	2*	...	...	...	*1 diabetes, 1 pyæmia.
„ chronic synovitis of knee	1	1	...	...	...	...	...	Aspiration.
„ fibrous ankylosis „	4	2	2	...	...	...	...	
„ talipes equinus	1	1	...	...	...	...	...	Tenotomy.
„ „ equino-varus	3	1	...	...	...	1	1	2 tenotomy, 1 excision of portion of tarsal arch.
„ „ varus	4	3	1	...	...	...	...	2 tenotomy, 2 excision of portion of tarsal arch.
„ „ planus	7	4	3	...	...	...	...	6 "fired," 1 excision of scaphoid.
„ genu valgum	2	1	1	...	...	...	...	Ogston's operation.
„ sciatica	4	3	...	1*	...	...	...	Nerve stretching, *death from chloroform.
„ lipoma of buttock	1	1	...	...	...	...	...	
AMPUTATIONS:								
Of fingers	3	3	...	...	...	...	...	
„ toes	3	2	1	...	...	...	...	
Through forearm	1	...	1	...	...	...	...	For caries of carpus.
„ condyles of femur	1	1	...	...	...	...	...	For infantile paralysis (atrophy).
„ thigh	3	2	...	...	...	...	1	2 for pulpy knee, 1 for cellulitis and abscess of leg.
Syme's	3	3	...	...	...	...	...	1 for epithelioma of foot, 1 pulpy ankle, 1 pulpy foot.

TABLE III.—*Cases of Infectious Disease during the year* 1887.

No.	Sex.	Age.	Date of admission.	Disease for which admitted.	Hospital disease.	Result and date.
1	M.	17	January 19th	Chronic pyæmia	Pyæmia	Relieved, February 21st.
2	M.	31	March 24th	Ingrowing toe-nail; erysipelas	Erysipelas	„ June 13th.
3	M.	42	„	Burns	Septicæmia	Died, July 3rd.
4	M.	26	May 19th	Scalp wound; erysipelas	Erysipelas	Relieved, June 4th.
5	M.	56	June 27th	Cut eyelid; erysipelas	„	„ July 1st.
6	F.	8	July 6th	Facial erysipelas	„	„ „ 15th.
7	M.	56	„ 13th	Wound of leg; erysipelas	„	„ „ 23rd.
8	F.	3	October 12th	Facial erysipelas	„	„ October 16th.
9	M.	61	„ 24th	Suppurative arthritis of knee	Pyæmia	Died, Feb. 17th, 1888.
10	M.	2	„ 30th	Inguinal hernia	Scarlatina	Relieved, December 1st.
11	M.	12	December 19th	Abscess of thigh	„	„ Jan. 10th, 1888.

REPORT OF CASES IN "ARDEN WARD"

(FOR DISEASES OF WOMEN)

DURING THE YEAR 1887.

By H. B. BRACKENBURY.

Number of patients under treatment, January 1st, 1887	6
" " admitted during 1887	112
Total	118

Number of patients discharged during the year:		
Cured or relieved	91	
Unrelieved	7	
Transferred to other wards	3	
		101
Died*		8
Under treatment, December 31st, 1887		9
Total		118

Readmissions within the year are not counted as separate cases unless suffering from a different affection.

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* 4 from ovarian cyst after operation, 2 from carcinoma, 1 from puerperal fever, 1 from phthisis after confinement.

Cases in "Arden Ward."

Nature of case.	No. of case.	Initials.	Age.	Result.	No. in register.	Remarks, treatment, &c.
Uterus:						
Subinvolution . .	I	M. F.	32	Relieved	K. 13	After parturition. Ergot.
	II	J. C.	25	"	K. 131	After parturition; also retroversion. Hodge pessary.
	III	B. B.	38	"	K. 222	After parturition. Ergot.
Retroflexion . . .	I	F. H.	27	"	J. 143	Also retroversion.
	II	E. T.	26	"	J. 173	Also retroversion.
	III	M. K.	29	"	K. 188	Also stenosis of cervix.
Retroversion . . .	I	L. B.	30	"	K. 9	
	II	E. A.	26	"	K. 73	Stem pessary.
	III	J. P.	24	"	K. 103	Hodge pessary.
	IV	E. M.	22	"	K. 172	Hodge pessary.
	V	R. C.	20	"	K. 208	
Anteversion . . .	I	S. D.	26	"	K. 204	
Prolapse	I	R. R.	42	"	J. 213	Third degree. Operation refused.
	II	F. T.	61	"	K. 35	Third degree. Ring pessary.
	III	M. G.	67	"	K. 93	Ring pessary.
	IV	A. J.	28	"	K. 236	
	V	L. L.	29	"	K. 244	After parturition. Alexander's operation previously performed.
Polypus . . .	I	M. B.	35	Cured	K. 11	Removed by wire écraseur.
	II	E. R.	69	"	K. 69	Removed by torsion.
	III	C. M.	50	"	K. 135	Removed by torsion.
	IV	J. R.	48	Unrelieved	K. 178	Refused treatment.
	V	E. R.	38	Cured	K. 238	Removed.

CASES IN "ARDEN WARD"—*continued.*

Nature of case.	No. of case.	Initials.	Age.	Result.	No. in register.	Remarks, treatment, &c.
Fibroid	I	F. A.	27	Relieved	J. 154	Pil. ergotinæ. Hodge pessary.
	II	S. M.	39	"	J. 208	
	III	M. C.	33	"	K. 41	Division of mucous membrane over fibroid.
	IV	A. F.	44	Unrelieved	K. 175	
Malignant disease . .	I	S. A.	49	Relieved	J. 177	Epithelioma of cervix; actual cautery.
	II	S. Y.	49	"	J. 210	Epithelioma of cervix.
	III	F. C.	48	Death	J. 221	
	IV	S. G.	60	Relieved	J. 225	Epithelioma of cervix. Operation refused.
	V	S. C.	28	"	J. 231	Epithelioma of cervix; actual cautery and spoon.
	VI	S. K.	40	Death	J. 237	Carcinoma of body.
	VII	J. W.	67	Relieved	K. 67	Epithelioma of cervix; actual cautery.
	VIII	M. C.	41	"	K. 79	Epithelioma of cervix; actual cautery and spoon.
	IX	M. B.	28	"	K. 150	
	X	C. B.	45	"	K. 168	Epithelioma of cervix; removed by spoon.
Chronic metritis . .	I	C. F.	32	"	J. 183	
	II	E. K.	44	"	J. 227	
	III	K. B.	31	"	K. 125	
Hypertrophy of cervix .	I	S. R.	42	"	J. 217	Removed by scalpel.
OVARIES:						
Cystic tumour . .	I	E. F.	24	Death	J. 241	Abdominal section; peritonitis.
	II	S. S.	30	"	K. 27	Abdominal section.
	III	M. S.	31	Relieved	K. 119	Multilocular; abdominal section.
	IV	J. H.	43	Death	K. 184	Abdominal section.
	V	E. B.	32	"	K. 196	Abdominal section.
	VI	E. B.	30	Cured	K. 226	Abdominal section.
VAGINA, URETHRA, &c.:						
Lupus vulvæ . . .	I	E. P.	43	Unrelieved	K. 37	Operation refused.
	II	M. T.	64	"	K. 57	Operation refused.

Labial cyst . . .	I	E. M.	22	Cured	J. 249	Contained pus. Opened and stuffed.
	II	E. W.	44	„	K. 107	Removed.
	III	A. R.	21	„	K. 165	Contained pus. Opened and stuffed.
	IV	E. D.	18	„	K.	Contained pus. Opened and stuffed.
Ulceration of labia and fourchette . . .	I	L. R.	23	„	J. 175	
Chancre of vulva . .	I	J. W.	23	Relieved	K. 141	
Carcinoma vaginæ . .	I	E. W.	59	Unrelieved	K. 77	
Lymphatic varix . .	I	E. C.	29	Cured	J. 195	
Urethral caruncle . .	I	H. K.	33	„	J. 176	Removed by knife and cautery.
	II	L. A.	70	„	K. 23	Removed by knife and cautery.
	III	M. E.	24	„	K. 182	Cautery.
DISORDERS OF MENSTRUATION:						
Suppresio mensium .	I	J. E.	23	„	K. 111	
Amenorrhœa . . .	I	M. M.	20	Relieved	J. 158	
Dysmenorrhœa . .	I	A. C.	26	„	K. 115	Some stenosis of cervix, which was incised.
Menorrhagia . . .	I	E. M.	47	„	K. 49	Menopause.
	II	M. B.	32	„	K. 83	
DISORDERS DURING AND AFTER PREGNANCY:						
Ruptured perinæum .	I	T. G.	35	„	J. 223	Also retroversion. Operation.
	II	M. B.	29	„	K. 17	Operation.
	III	S. L.	31	„	K. 81	Operation.
Pregnancy and pain .	I	F. B.	35	Relieved	K. 43	
Pregnancy and phthisis .	I	S. P.	42	Death	J. 229	

CASES IN "ARDEN WARD"—*continued.*

Nature of case.	No. of case.	Initials.	Age.	Result.	No. in register.	Remarks, treatment, &c.
Retroverted gravid uterus	I	M. S.	35	Relieved	K. 152	Barnes's bag in rectum.
Puerperal melancholia .	I	C. G.	29	Cured	J. 197	
Puerperal fever . .	I	S. S.	36	Death	J. 200	
	II	M. K.	27	Cured	K. 154	No medical attendance during labour, which was difficult.
Secondary hæmorrhage .	I	J. B.	29	"	K. 162	
Sequelæ of abortion .	I	C. H.	29	"	J. 179	
	II	A. S.	34	"	J. 187	
	III	E. A.	21	"	J. 193	
	IV	K. P.	29	Unrelieved	K. 65	Left hospital at her own wish.
	V	E. W.	44	Cured	K. 107	
	VI	C. R.	27	"	K. 210	
	VII	E. V.	30	"	K. 214	
PELVIS:						
Pelvic peritonitis . .	I	A. P.	32	Relieved	J. 201	Chronic.
	II	S. R.	46	"	J. 203	Chronic.
	III	E. P.	40	"	K. 146	Chronic.
	IV	M. S.	32	Cured	K. 149	Puerperal.
	V	E. B.	30	Unrelieved	K. 230	Chronic.
	VI	M. A.	27	Relieved	K. 248	Following a strain.
Pelvic cellulitis . .	I	R. V.	23	"	J. 239	Chronic.
	II	L. O.	29	Cured	K. 3	Puerperal.
	III	A. R.	28	"	K. 85	Puerperal.
	IV	E. G.	24	"	K. 216	Puerperal.
Pelvic hæmatocele . .	I	F. S.	39	Relieved	K. 39	Chronic.
	II	A. E.	23	"	K. 97	

Unclassified:						
Debility	I	A. L.	43	Relieved	K. 212	
Hysteria	I	M. B.	34	„	K. 144	
Chronic peritonitis . .	I	C. F.	21	„	K. 47	? Tubercular.
Ascites	I	E. K.	40	„	K. 5	Encysted. Abdominal section.
	II	M. S.	37	„	K. 31	
Chronic constipation .	I	M. J.	51	„	K. 29	
	II	E. H.	16	„	K. 51	
Rectocele . . .	I	S. S.	39	„	K. 1	Operation.

REPORT OF SPECIAL CASES.

A CASE

OF

SUPPURATIVE MENINGITIS ASSOCIATED WITH EAR DISEASE.

By J. BLACK.

I am indebted to Dr. Allchin for placing this patient under my care, and to Mr. Caudwell, the house physician, for the early notes of the case.

Ellen L—, æt. 21, of 98, Collects Buildings, Francis Street, Westminster, by occupation a general servant, was admitted December 31st, 1887.

History and symptoms.—Had always been a delicate girl, but was in her usual state of health until three days before admission. She then complained of severe frontal headache and noises in the ear. She had very little appetite, and always felt discomfort after food. The bowels had been somewhat confined, and pain was referred to the left side of the abdomen. The patient groaned a great deal and complained of sleeplessness. On the day before admission she had a slight fit (? syncope), during which she was quite unconscious, but had no movements of any kind. There appeared to have been frequent so-called fainting-fits throughout the past month. Two years previously it was stated at one of the large London hospitals that "an abscess had formed in her head." Her father was said to have died of quinsy. Mother died in the Middlesex Hospital, after a year's illness, of carcinoma uteri. One sister was living, but delicate, and a brother, fourteen years old, was stated to be in good health. Patient was sallow; her teeth, though ill-formed, could not be considered characteristic of congenital syphilis. Her sight had been affected since she was seven years old, and the pupils were occluded from the effects

of old iritis. An operation was performed in St. George's Hospital to give her an artificial pupil. She had been very deaf since she was ten years old, and had been subject to otorrhœa since she was a baby. *Heart:* Apex in normal position, dulness slightly increased transversely, systolic murmurs all over heart's area, loudest at the tricuspid and aortic. *Lungs:* No abnormal physical signs detected. *Abdomen:* Somewhat distended and tender. Temp. 102° on night of admission.

January 2nd.—Bowels relieved of a small quantity of hardened fæces passed in large, semi-solid lumps. Temp. 102·5°. Enema simplex ordered, to clear out the lower bowel. Emplastrum lyttæ to be applied to nape of neck, and Pot. Bromid. gr. xx to be given in a mixture every six hours.

5th.—No discharge seen to escape from the ears. Wandered last night and slightly delirious. Passed urine unconsciously in bed, being unable to hold it when asleep. Micturition frequent. Great thirst. Complained of frontal headache, pain, and stiffness of the neck.

6th.—Rep. Hst. Pot. Bromid. Pil. Calomelanos gr. ij. Temperature had risen to 103° every evening, and kept up above 101°.

9th.—Patient's right ear carefully examined, and after cleansing the external auditory meatus of a small amount of muco-purulent secretion, perforation of the membrana tympani and granulations were made out. On pressing over the right mastoid prominence, patient apparently winced. She lay in an extremely drowsy and apathetic state. Temp. 100°, had fallen from 103·8° since yesterday morning. Directions were given for the ear to be kept clean by daily syringing with warm boracic acid lotion and iodoform dressing applied. The calomel to be repeated, and Træ. Iodid. ℥j, Liq. Epispast. ʒj. M. To be painted over the mastoid for counter-irritation.

11th.—Patient had a bad night, was restless, and called out a great deal. Bowels had been freely open. Had shown more consciousness this morning, asked the nurse for the bedpan for the first time since she was moved from the "Harper" into the "Extra" Ward yesterday morning, having previously passed everything under her. She asked how she was, and when tested with the tuning-fork, said she could hear it much better with the left ear. A fine pink mottling was observed on the abdomen, also very slightly on the arm. [A few mornings later a similar evanescent erythema was seen, following the course of the internal cutaneous nerve of the right upper extremity and on the knuckles of the hand.] The patient was evidently almost absolutely deaf to the human voice, and the note produced by the vibration of a Gardiner-Browne tuning-fork, when violently struck and applied to the right mastoid, was scarcely at all perceived by the ear of that side. Temperature kept up all day yesterday, had fallen to 99·2° this morning, but rose to 104·4° at 8 p.m. There was an expressionless look on the right side of her face; the left angle of the mouth being slightly drawn up, and the right naso-labial fold obliterated, indicating paresis of the right portio dura. The orbicularis palpebrarum of the same side was, however, kept contracted.

12th.—Granulations were seen in the cavity of the tympanum, through the perforation in the right membrana tympani, a small mass having been previously extracted under proper focal illumination by a pair of fine rectangular forceps. Temp. 102·4° at 8 a.m., and remained the same throughout the day.

13th.—Patient lay in the same drowsy, unconscious condition, but cried out when disturbed. Temp. 101° during the morning, rose to 104° at 8 p.m. A solution of glycerine of borax was ordered to moisten her mouth and remove sordes, abundant on her teeth.

14th.—Temp. 100°, rose to 104° at 8 p.m. Bowels open. Had a good night.

17th.—Very restless all last night and seemed in a great deal of pain. She still remained torpid, but could converse to a very limited extent when, by means of a slate, with a few words in large type, questions were put to her. She quickly, however, became exhausted, and had to give up. Bowels were open twice yesterday beneath her; this seemed especially the case towards the end of the day; in the morning she could be kept dry, and asked for the bedpan. Temperature rose to 103° on the 15th, having fallen to 99° in the early morning. All yesterday it remained about 102°, rising to 103° in the evening. This morning's temperature 100·8°, went up to 103° at night.

18th.—Had a very bad night, was restless, and seemed in pain, calling out a great deal. Bowels acted freely at 2 a.m. Complained of pain all over her. Cried out at the slightest touch. Seemed to get a little rigid occasionally, and to have her head drawn back.

19th.—As there was marked retraction of the head, perforation of the mastoid was decided on, it being well known that meningitic symptoms will sometimes subside if a free vent be given to matter pent up in the mastoid air-cells. Accordingly, at 3 p.m., I performed this operation, but no pus escaped. Fluid, however, passed freely from the perforation in the bone out of the external auditory meatus when syringing warm antiseptic lotion from the former to the latter, and *vice versâ*.

20th.—Had a very bad night, at times quite violent, sitting up and throwing herself back in bed. As no light was thrown on the case by yesterday's operation, the left ear was carefully examined. There was a large perforation of the membrana tympani, and the cavity of the tympanum was in part obliterated by old inflammatory organic thickening with glazed surface devoid of moisture. On pressing firmly over the left mastoid a slight depression was noticed; this, however, was not due to pitting, but merely to a peculiarity in the contour of the bone.

23rd.—Patient very feeble; ordered plenty of nourishment in the form of milk, strong beef-tea, and egg-flip, to be taken alternately in small quantities every two hours. This, however, could not be continued long, as it soon brought on sickness, and only a little brandy and ice given by the spoon could be kept down.

24th.—During the night she had two or three spells of sleep for an hour and a half or a couple of hours at the time, and she was less restless

and better this morning. Although the operation wound showed little signs of repair, it looked healthy. A dose of calomel had acted well twice, and brought away a very offensive accumulation. The woman with whom the patient had been living said as long as she could recollect there had never been any discharge from the left ear, and although it had been very deaf, any otorrhœa must have been before she was six years of age. In the afternoon at 4.30 p.m. Mr. Cowell and Mr. Stonham kindly saw the case with me. The nurse told us the patient had been worse since half-past 2 o'clock, had been more persistently unconscious, and her head had been kept extremely retracted. It was agreed that it would be worth while to trephine with the view of possibly giving exit to an intracranial collection of pus.

25th.—Had the scalp shaved, rubbed with turpentine and then methylated spirit, so as to be thoroughly prepared to trephine antiseptically the next morning. Dr. Allchin considered it would be politic to communicate with the sister of the patient, as she had given but a very reluctant consent to the performance of any operation whatever, so I wrote an explicit statement to her with the request that she should telegraph to me if she decided to withhold her consent to an operation.

26th.—At 10.30 a.m., not having heard from the sister, I concluded I was entitled to proceed. Having had the head enveloped by a towel soaked in 1 in 20 carbolic, I first syringed the same lotion thoroughly through the perforation in the mastoid and out of the meatus, so as to render the tympanum and its mastoid ramifications as far as possible aseptic. The patient was very bad indeed before being taken down to the operating theatre, so much so that Dr. Allchin scarcely believed she could live through the operation; the pulse was extremely feeble. I decided, however, to proceed, as I felt confident, if by any chance she survived the operation, the latter might prove the means of saving her life. Under the spray I first trephined for pus over the roof of the tympanum. This I did after the manner recommended by Dr. McBride, viz. by dissecting out the auricle above and trephining the squamosal immediately above and in front of the external auditory meatus, with a trephine having the diameter of a sixpenny piece. I chose this method as being the least severe, and therefore the most suitable under the circumstances. After removing the bone, which was extremely thin, the dura mater was reflected, and a thoroughly aseptic grooved director passed in, first towards the tegmen tympani and then upwards and backwards to the site where Mr. Barker has observed temporo-sphenoidal abscess due to ear disease to be most frequently found post mortem, viz. an inch and a half above and the same distance behind the external auditory meatus.

As no collection of pus was discovered, and as Mr. Brackenbury, who administered the anæsthetic, said the patient had improved during the operation, I felt it advisable to pursue the search still further in the direction of the cerebellum, especially as the retraction of the head pointed to meningitic irritation in the posterior fossa of the skull. I

followed the steps given by Mr. Hulke in his description of his own operations for the evacuation of cerebellar abscess ('Lancet,' July 3rd, 1886). After the crescentic flap of integument was reflected, and the muscles raised off the bone, I trephined the occipital distinctly below the level of the lateral sinus, but as the dura mater looked very purple as though venous blood were immediately subjacent, I decided it would not be safe to attempt to reflect the membrane at this spot, and accordingly reflected the soft parts a little further with the raspatory, and removed a second disc of bone, and after reflecting the dura mater, perforated the cerebellum with a thoroughly aseptic grooved director in two directions, firstly toward the internal auditory meatus, and next until the instrument came in contact with the petrous portion of the temporal, where it forms the inner wall of the mastoid antrum, but unfortunately without giving exit to any pus.

The patient survived until Jan. 28th, when she died at 12.40 p.m., sixty hours after the operation. Many of her symptoms showed marked improvement after the operation; for instance, the nurse, who was indefatigable in her care of the patient, found she could feed her with a spoon much more readily, on account of her swallowing having immensely improved. She also lost all retraction of the head, and her legs, which had been kept drawn up, were now lying stretched out in bed. The temperature had gradually declined since the perforation of the mastoid. A strenuous endeavour was made to buoy up the flagging powers of the patient by the hourly administration of small quantities of milk, beef-tea, and egg-flip with brandy, but she gradually grew weaker and died.

The autopsy was made by Dr. Hebb, of whose account the following is an abstract:—Body well-nourished. Rigor mortis persistent. Linear surgical wounds behind and above right ear and one of crescentic form in right suboccipital region. Skull presented four surgical openings, one in middle fossa, one behind the ear, and two in the suboccipital region of the right side. Opening in mastoid process passed forwards and inwards close to external auditory meatus. The lowermost occipital opening passed through the dura, and the wound could be traced as a red streak through the right lobe of the cerebellum. In the case of the upper occipital opening only the bone had been removed; it was well below the groove for the lateral sinus, but the marked venous congestion of the brain here would have accounted for the dark colour of the dura at the time of the operation. The right lateral sinus and the superior longitudinal sinus were quite blocked with firm partially decolourised clot. There was a considerable quantity of greenish-yellow pus in the cerebellar fissure, and from this point proceeded in small quantity as far as the optic chiasma. There was an excess of intraventricular fluid, which was turbid, but the walls of the ventricles were not softened. There was no flattening of the convolutions. The meningitis was also found on the cord, the front half of the cervical pia being covered with a thickish layer of yellow pus. The examination of the right ear showed a pulpy condition of the lining of the tympanum, with a small

erosion filled with granulation-tissue in its roof. The membrana tympani had all but disappeared, but the ossicles were still present. There was no apparent necrosis of the bone. On section, the mastoid was found to be of ivory-like density, there being no other air-cell than the small oblong recess communicating with the posterior wall of the tympanum, known as the "antrum." There was evidence of chronic pleuritis over the lower lobe of the right lung, which was extremely friable and subcrepitant. Heart normal. Abdominal viscera *nil*. Right lateral version of the uterus; endocervicitis. Ovaries indurated.

Remarks.—I think I am right in stating that from the first Dr. Allchin regarded the case as one of meningitis. This certainly was my own view throughout the patient's illness. I have already referred to the propriety of making an opening into the mastoid antrum when symptoms of meningitis supervene on disease of the middle ear. The statement, said to have been made at a London hospital, that an abscess had formed in the patient's head, was certainly remarkable, but it was very difficult to obtain any clear history regarding it; such a statement, however, if made at all, must have been owing to the patient having presented grave head symptoms. Since Mr. Hulke has drawn attention to the fact, we have come to look, in cases of abscess of the brain, not only for a more insidious onset and chronic course than in diffuse inflammation, but particularly for an abnormally slow pulse and a low temperature. These symptoms were present in Mr. Hulke's own cases, and also in those published by Dr. Greenfield and Mr. Barker. Now, as to the onset of this patient's illness there might reasonably have been some doubt, but the temperature and pulse were invariably above the normal, indeed, the evidence from the temperature chart bore strongly in favour of meningitis, and in addition was wholly opposed to the view that the case could possibly be one of pyæmia secondary to septic thrombosis of the lateral sinus, as also did the absence of rigors; an interesting case of the latter recovered under Dr. Allchin's and my own care last year. The retraction of the head, and the way in which the patient lay in a state of more or less complete unconsciousness, and yet called out at the slightest touch, supported the view of the case being one of meningitis.

Although the symptoms weighed heavily in favour of

diffuse meningitis rather than localised abscess, I think the improvement subsequent to the operation of trephining illustrated the justifiability of the latter. Moreover, it occurred to me as possible that the meningitis was perhaps secondary to a chronic cerebral or still more likely cerebellar abscess, and if such had been the case, and the abscess had been thoroughly drained, there is good reason for supposing the meningitis would have subsided; at all events it seemed one's duty to act on such a suggestion.

It certainly was striking at the post-mortem to notice how near the blunt-pointed director had gone to the localised collection of pus in the posterior subarachnoid space, for indeed, with the exception of a small quantity sparsely spread over the pons and locus interpeduncularis, and again, as has been mentioned in Dr. Hebb's notes, over the upper and anterior part of the cord, the pus seemed localised, abscess-like, to the spot just mentioned. The director penetrated within three quarters of an inch of the collection. One cannot help wondering whether in the future cerebral surgery will effect the cure of such cases of purulent meningitis as the above; certainly the improvement following the operation of trephining seems to point in this direction, and can no doubt be explained by that main principle which guides the surgeon in the treatment of all inflammation, viz. relief of tension.

A CASE OF TETANUS.

By Dr. WILLS.

Henry S—, æt. 23, was admitted into King William Ward, under Dr. Sturges, on June 15th, 1888. He stated that he was perfectly well four days before admission. He was then seized with severe pain in the epigastrium, which came on paroxysmally, at intervals of about half an hour. The pain seemed to commence in the epigastrium, and pass through to the spine, each attack lasting about a minute, and being accompanied by a great sense of breathlessness. This became so severe that he was brought to the hospital.

His previous history was that he was a ne'er-do-well, who would never do any work, and drank as much as he could get. He had a slight attack of rheumatic fever two years ago. Nothing special known about his family.

When admitted, he was in a filthy state, his clothes were in rags, and he had an enormously long left thumb-nail, due to its not having been cut since he had a whitlow two months before. There was no sign of suppuration about the thumb or elsewhere in the body. There were some slight scars on the legs, but there was no indication of pain or tenderness on pressure about them. There were no abnormal physical signs in chest or abdomen. There was no evidence of spasm about the body beyond a slight spasm of the orbicularis palpebrarum, and some little stiffness of the jaws, in addition to the respiratory spasm which accompanied the attacks of pain in the epigastrium. He continued in this condition until June 17th, when the pain in the epigastrium became more severe, and each attack was followed by general spasms, affecting the muscles of the back and limbs, as well as marked increase in the spasm of the masseters. During the fit he assumed the opisthotonic position and frequently rolled over on his face, when he would rise upon his hands and knees, clutching at the rail of the bed. He apparently suffered considerably from the respiratory spasm, as his face

and lips became blue, and the respiration and pulse after the subsidence of the attack rose to 60 and 160 respectively. This condition continued until the morning of June 19th, when he was given 30 grains of potass. bromid. and 10 grains of chloral every four hours, which quieted him somewhat. By the evening of June 19th he was worse again, spasms coming on every five minutes. He suffered great pain during the convulsive fits and said he wished he were dead.

This condition continued off and on until June 25th, when the fits had almost entirely ceased.

He had been taking, since the 23rd, the bromide and chloral every three hours.

There remained, however, always a certain amount of rigidity of the muscles, especially of the masseters, between the fits.

As he had suffered considerably from toothache for some days, on the afternoon of the 25th two decayed molars were extracted.

On June 26th the chloral poisoning was so profound that the drug was only given every six hours, and on June 28th stopped entirely.

The chloral seemed to have had the effect of producing considerable mental disturbance, for after the narcotic effect passed off the patient was most emotional, and at nights extremely noisy and troublesome, constantly trying to get out of bed, shrieking, and groaning.

From June 29th to July 2nd he was therefore given doses of 30 minims of tinct. opii at night, which kept him fairly quiet. There are occasional slight spasms, but not nearly so severe as formerly. There still continued to be some rigidity of the jaws between the attacks.

On July 3rd he was noted as being considerably emaciated as compared to his condition on admission. Lying in bed on his back. Jaws clenched, but can be opened with difficulty. No rigidity of other muscles, and only occasional slight attacks of the general spasms, which were accompanied by opisthotonos. No abnormal physical signs in chest.

By July 16th his condition had much improved. He slept well and took his food well. He was still very weak, so weak that he could not sit up. He was quite quiet at night, and did not scream or shout. There were still occasional slight spasms of the back-muscles and the jaw remained somewhat rigid when attempts were made to open it. His mental condition had much improved, and he appeared perfectly rational again.

By July 20th all signs of rigidity of jaw and back had disappeared, and he appeared to be perfectly well except for extreme weakness.

On July 27th he had a slight attack of pain, stiffness, and rigidity in left ankle, but it disappeared next day. He then was allowed to get up, and was discharged on August 9th, perfectly free from any signs of tetanus.

Remarks.—This case has been recorded chiefly because so-called idiopathic tetanus is a comparatively rare disease,

and because it is still rarer to find cases in which the symptoms were so severe as in this one, recover.

It seems, indeed, somewhat doubtful whether this was not a case of tetanus set up by some local irritation rather than a case purely idiopathic in origin.

He had the remains of a whitlow on his thumb, several small scabs on his legs, and he had a tooth which was sufficiently decayed and causing him sufficient pain to render it desirable that it should be extracted. It was not possible to trace any definite connection between these local conditions and his constitutional affection, but it hardly seems reasonable to utterly disregard them and name his disease idiopathic tetanus.

He certainly did not improve to any marked extent after the scar of the whitlow had been cleaned and dressed, or after the removal of the tooth, but surely it is conceivable that, when once such a condition of nervous instability and irritability has been established as is evidenced by the frequent occurrence of severe spasms of all the muscles of the body, the mere removal of the exciting cause would not at once be followed by improvement. He certainly, on the other hand, had been exposed to the classical predisposing cause—drink, and exciting cause—wet and exposure.

The case was interesting clinically from the difficulty experienced in diagnosing it, when he first came in with the symptoms merely of general malaise and severe pain in the epigastrium, with some catching of the breath. He had from the very first a curious dropping of the eyelids, caused by spasm of the orbicularis, the significance of which was afterwards appreciated, but which appeared at first as if it were merely a habit.

In considering the treatment of tetanus, both by narcotics and otherwise, reference may be made to a paper by Mr. Macnamara in the 'Practitioner' for 1871, in which he recommends strongly the use of chloral hydrate in doses of forty grains at bedtime in order to induce sleep for some hours, leaving the patient unnarcotised during the day; except in very rare cases, where he recommends the administration of an additional thirty grains at midday. This is accompanied by very regular feeding at intervals of

a few hours. Under this treatment he records seventeen recoveries out of twenty consecutive cases occurring in India, many of which were extremely severe.

In the first edition of Dr. Fagge's 'Principles and Practice of Medicine' are quoted several cases in which the injury, which was the apparent exciting cause of the attack of tetanus, was of a very trifling nature. A girl aged five slightly strained her back and grazed her elbow the day before she was attacked by tetanus. "Three other patients showed, one a slight scar over the knee, another a small sore on the elbow, and the third a little scab with pus beneath it on the elbow, in addition to a cicatrix half an inch long on the forearm, due to a cut received about six weeks previously." Dr. Fagge also mentions a case under his own care at Guy's Hospital which presented symptoms of stiffness of the neck and jaws which had come on four or five days after the healing up of a small "gathering" on one big toe due to irritation from a small nail in his boot. This patient recovered.

Some of these cases seem closely parallel to the one detailed above as far as the slight nature of the existing cause, and in one case the length of time which had elapsed since the injury was received.

CASE

OF

ABDOMINAL ABSCESS AND ANEURYSM OF A BRANCH OF THE CŒLIAC AXIS.

REPORTED BY MR. CAUDWELL.

(UNDER THE CARE OF DR. DONKIN.)

PHILIP C—, æt. 40, carman, was admitted to the hospital on account of some pain across the epigastrium.

Present illness.—Three months ago, while standing against the wall he was kicked "in the stomach" by a horse. He attributes all his present illness to that accident. He has suffered since from pain across the abdomen, the pain becoming much more severe whenever he leaned forwards or stooped down. There has been no discomfort after food, no diarrhœa, nor sickness until March 16th, when he vomited once after food, the vomiting, however, being unaccompanied by pain. During the past week the pain across the epigastrium has become much worse. It has been of a dull aching character, with occasional paroxysms of sharp cutting pains, which he states are worse at night, and which are sometimes relieved by pressure. The paroxysms come on irrespective of food, and are unaccompanied by vomiting.

Previous history.—Up till three weeks ago he had always enjoyed good health. For some considerable time he has been accustomed to take large quantities of beer. During the past year or so he frequently had attacks of epistaxis. These attacks have always been preceded by a sensation of heaviness and fulness in the head, which has always been relieved by free bleeding from the nose. Suffered once only from hæmorrhoids eighteen months ago. Has never been jaundiced. On more than one occasion he has experienced a dull aching across the

loins, and noticed his urine to be high coloured and very thick. This he has always thought to be due to "catching cold." Has never had rheumatic fever.

Family history good.

Present condition.—Well nourished; countenance expressive of pain. Complains of great pain and tenderness across the epigastrium.

Circulatory system.—The cardiac impulse is seen to be about three inches below the nipple, and just outside the nipple line; it is diffused and heaving in character. The area of cardiac dulness is increased towards the left, but the limit on the right side is difficult to define. A loud systolic murmur conducted into axilla and round to the back is heard at the apex. The same murmur can be heard very distinctly at the aortic and pulmonary orifices.* Pulse 80, regular, resistant. No palpitation or dyspnœa.

Pulmonary system normal.

Digestive system.—Can take his nourishment well. Bowels somewhat constipated. No discomfort after food. Area of hepatic dulness increased downwards, and lower margin of liver can be felt about two inches below costal margin. The epigastrium is somewhat prominent, the prominence being apparently caused by the underlying liver. This region is very tender.

Urinary system.—Passes a fair quantity of urine, sp. gr. 1010, acid, loaded with albumen. No œdema anywhere.

Nervous system.—Is unable to sleep at night on account of pain while in hospital. The pain was considerably relieved by opiates, Pil. Opii gr. j being administered every six hours for a week. He seemed so much better that it was thought he might be feigning, so Pil. Micæ Panis was administered. However, the patient suffered so greatly after this change of treatment that the opium was again administered, and was continued till March 31st, by which time patient was considerably relieved, the pain not causing him any discomfort, and there being no tenderness over epigastrium.

From March 21st—31st, Hst. Pot. Iodid. (gr. x) ℥j t. d.

From March 31st—April 13th, Hst. Gent. et Sodæ, ℥j t. d.

From the date of admission till the time of going out, the amount of albumen in his urine steadily diminished, but did not entirely disappear.

Patient left the hospital on April 13th considerably relieved.

Second admission.—Patient came to the hospital complaining of palpitation, headache, aching across the loins, scalding scanty micturition, severe cough and hæmoptysis.

Present illness.—Patient states that since his discharge from the hospital about three weeks ago he has remained in fairly good health until about April 28th. Up till that date he had had no recurrence of the epigastric pain. Illness commenced on April 28th with a severe

* This bruit, as I soon came to observe, would be better described as a systolic bruit, heard all over and beyond cardiac region, especially loud at epigastrium. —H. B. D.

cough, slight hæmoptysis, and headache. After a day or two he began to suffer from dull aching in his loins; the urine became scanty, was very high coloured, and scalded him when he passed it. Vomited occasionally, more especially in the early morning. States that there was no swelling of his eyelids, ankles, or abdomen. He gradually became worse, began to suffer from attacks of palpitation and dyspnœa, the cough became very troublesome, and on May 1st the expectoration was again streaked with blood. While coughing he began to experience pain in lower part of chest, front and back. The pain is cutting in character, starting at the back and shooting round to the front. He became rapidly weaker. Since he left the hospital he has rested himself at home and abstained from work, only going out in fine weather.

Present condition.—Patient in bed, features somewhat drawn and anxious, complexion sallow, cheeks injected, eyes sunken, dark rims around them, breath very offensive, complains of pain in lower part of chest. Is thinner than when he was in one month ago. (States that within the last three years he has lost over 2 st., but this statement was not found to be supported on investigation.) The chest is well formed, the antero-posterior diameter is apparently disproportionately large, costal angle wide. There is retraction of the lower intercostal spaces during inspiration. No distension of superficial veins. Distinct pulsation to be seen and felt in the epigastrium. Breathing harsh, expiration not prolonged. Breath-sounds accompanied by râles and rhonchi. Expectoration profuse, frothy, streaked with blood. Heart's impulse is visible and palpable in the sixth interspace, reaching nearly down to the seventh rib, slightly outside the nipple-line. Point of maximum intensity is between the fifth and sixth ribs, just outside the nipple-line. Impulse is diffused. The area of cardiac dulness is considerably diminished. There seems to be no proper cardiac dulness. A loud systolic murmur is heard in the region of the apex; it is heard very distinctly over the ensiform cartilage and epigastrium down to a point midway between the xiphoid cartilage and umbilicus, where it ceases to be audible. This murmur, which is hard and grating in character, is faintly heard at the base of the heart. It is conducted into the left lateral region, is distinctly audible over the whole of lower half of back, and is heard faintly in both suprascapular fossæ. The second aortic sound is accentuated. Pulse 130, feeble, quick, irregular. No œdema of extremities. Urine 1030, acid, abundant albumen, smoky, scanty, contains blood. Bowels rather confined. Temperature is normal. Patient had a hot-air bath in consequence of the small amount of urine that he had passed; it caused him to perspire very profusely.

May 5th.—Pulse 130, very irregular in force and rhythm. Ordered Hst. Æth. cum Amm. ℥j, Tinct. Digit. ♏x, every sixth hour. Patient felt very unwell to-night. Temperature at 8 p.m. 104·4°, at 12 p.m. was normal.

9th.—Epistaxis this morning, feels better. The pain in his chest is not so severe, but he complains that his sleep is broken at night by

paroxysms of coughing. Pulse since taking digitalis has ranged between 92 and 84. The quantity of urine passed during the past three days has averaged fifty-seven ounces daily. It is smoky, alkaline, contains mucus and pus, and about one quarter albumen. The microscope detects pus-cells and blood-corpuscles. Bowels confined for past two days. Temp. 97·8°. For the past four nights the temperature has gone up to 99·8°.

12th.—Patient in much the same condition. This afternoon at 5.40 p.m. he had a very severe rigor which lasted fifteen minutes. The temperature rose to 104°. During the rigor he complained of very severe pain and tenderness in left hypochondrium. Complains of great thirst. The skin dry and hard. No pain over the lumbar or hypogastric regions. No suppression of urine. Pulse 132; respirations 48.

13th.—An endeavour was made this morning to find out the condition of the bladder, but owing to the irritable condition of the urethra Mr. Spencer was only able to pass a No. 5 catheter, and did not attempt to pass a sound.

This evening patient is extremely prostrate, countenance drawn and anxious, vomited a quantity of bile-coloured fluid. During the twelve hours after the passage of the catheter (a soft one) patient has only passed five ounces of urine.

14th.—Bowels open twice. Temp. 97·8°. Eighteen ounces of urine passed. Bladder washed out to-day.

15th.—Patient still complains of pain across the epigastrium. Pulse 82, very regular. Fifty-two ounces of urine passed. The urine is still alkaline; very offensive; contains pus, albumen, blood, and triple phosphate crystals. The pain shoots from epigastrium round the left side into the left lumbar region. Patient placed on solid diet. Temp. at 4 p.m. 103·6°; at 12 subnormal.

16th.—Patient states that he feels better. Pulse 82, regular. Temp. at 8 a.m. 103·2°, remained there for about one hour, and was 97° at 12 noon. At 8 p.m. patient had another severe rigor which lasted for twenty minutes, after which he perspired very profusely. Temp. 104·2°. Passed forty-three ounces of urine, which still presents the same characters.

17th.—Patient in great pain all last night across the epigastrium and in the left lateral region. Pain relieved by one sixth of a grain of morphia hypod. Very restless; uncontrollable vomiting. Had another rigor at midday, which lasted for twenty-five minutes. Temperature remained about normal.

18th.—Temperature at 2 a.m. rose to 102·8°; subnormal again at 6 a.m. Patient is very restless to-day, sitting up in bed, unable to lie down on account of the severe aching pain accompanied by superficial tenderness in left flank. Pulse 84, regular, small. Vomiting is excessive. Patient unable to retain any nourishment. Vomits large quantities of thin bile-stained fluid. Had another rigor at 2 p.m. which lasted twenty minutes. Temp. rose to 101°.

19th.—Has passed no urine for twenty-four hours. Is constantly

vomiting. Is in great pain. States that the pain is in the left flank, where there appears to be a slight fulness. No. 12 catheter passed, and four ounces of purulent offensive urine drawn off. Patient complains of great pain under the left costal margin in front and at the side, great tenderness over this region, which is slightly prominent. Dulness on percussion. It was thought that obscure fluctuation could be felt, but it was impossible to be certain on account of the rigidity of the abdominal muscles. A fine exploring needle was thrust in at the two most prominent points close under the ninth rib, but no pus or other fluid was drawn off. The needle seemed to be in a cavity. Temperature subnormal. Passed about six ounces of urine. Vomiting persistent.

21st.—Temp. at 2 a.m. 95°; at 12 a.m. 97°. Patient passing no urine. Vomiting persistent. Pain more intense. Patient sitting up in bed propped up with pillows; features drawn, haggard; frequent sharp cries as of acute suffering. At 11 a.m. a No. 12 catheter passed, and about twelve ounces of fœtid black urine drawn off. Great pain and tenderness all over abdomen. About an hour after was generally convulsed for about three minutes, and apparently conscious the whole time. Patient remained in much the same condition until about 11 p.m., when he gave a loud shriek and died.

22nd.—*Post-mortem* (fourteen hours after death).—Body emaciated. Rigor mortis persistent. Brain 49 ounces, *nil.* In both pleural sacs there are large masses of recent clot (ante-mortem). There is no evidence of their origin. Lungs emphysematous. Bronchitis. Heart 17 ounces. On the endocardium of the left auricle, and along the fringe of the mitral, are numerous quite recent vegetations. The other valves are normal. Along the root of aorta are a few patches of recent atheroma. Elsewhere the vessel is smooth and elastic. On opening the abdominal cavity the peritoneal surface is found to be covered with a thin layer of purulent lymph, which is thickened at the upper part and about the spleen. On removing the pancreas, an abscess cavity about the size of a walnut burst. This cavity was found to surround a small branch of the cœliac axis, which branch immediately after its origin was dilated into a saccular (almost spherical) aneurysm about the size of a walnut. The coats of the artery were much thickened. There was no evidence that the walls had given way. Gastro-intestinal tract quite healthy. Liver 84 ounces, soft, friable, and pallid. Spleen 13 ounces. Capsule thickened. Much old and recent perisplenitis, and an infarct of some standing. Kidneys: left 11 ounces, right 9 ounces. On the left kidney there is a deepish cicatrix, within which is a small cretaceous nodule. Both kidneys have smooth surfaces, sunken cortices, and of softish consistence, and purplish in colour. The prostate is slightly enlarged. The coats of the bladder are thickened and the muscles hypertrophied. Within the cavity is a recent clot (about two drachms in weight), and the mucosa about the trigone is much injected.

Comment.—At first sight this case was by no means clear. The physical signs and symptoms generally were not easily connected by a chain of probable causation, and the pathology appeared mysterious. There was evidence of heart disease, of kidney and bladder mischief, and of some inflammatory affection in abdomen, apparently over the surface of the liver. It was only as the case progressed that an approximate diagnosis was arrived at, viz. that of a probable aneurysm in the close neighbourhood of the diaphragm, as evidenced by the pulsation and the locality of the murmur. It was also thought that the great pain and tenderness in the epigastrium, with the fever and the subsequent rigors, pointed to a collection of pus somewhere, the result of the original injury—the kick by a horse—which the patient himself accused of all his trouble.

It would seem from the post-mortem that the following is a reasonable reading of the case:—There seemed to be no marked evidence of any organic disease previous to the accident. The kick may have caused both the aneurysm and the injury to the surrounding structures which resulted in the abscess found, or the aneurysm may have been caused by the neighbouring suppuration. The chronic suppuration was probably the cause of the feverish symptoms, rigors, &c., and was answerable for the apparently septic condition which was evidenced by the blood extravasations in the pleura and the bladder and the vegetations on the mitral valve. With this septic condition also may be connected the albuminuria from which the patient suffered.

The murmur heard during the most part of the course of the case was probably aneurysmal. It was the murmur, loudest at epigastric region and at back, which perhaps first gave rise to the suggestion of aneurysm. The diagnosis was obviously but conjectural, and the post-mortem examination, though certainly tending to corroborate the diagnosis, did not tell a very decided tale. The urinary symptoms were not understood during life.

MUSEUM.

LIST OF SPECIMENS

WHICH HAVE BEEN ADDED TO THE MUSEUM FROM THE OPENING OF THE NEW BUILDING,

OCTOBER, 1885, TO OCTOBER, 1888.

1. Articulated skeleton : adult female.
2. Pedunculated lipoma.
3. Papilloma of tongue.
4. Hip-joint surrounded by sarcomatous growth, spindle-cell.
5. Fracture of sternum.
6. Fracture, comminuted, of clavicle.
7. Fracture, extra-capsular, of femur.
8. Necrosis of tibia.
9. Fracture of patella ; fibrous union.
10. " Scrofulous " rarefaction of big toe.
11. Myxochondromatous degeneration of terminal phalanx of little toe.
12. Epithelioma of foot.
13. Fracture of spine ; dorsal region.
14. Rodent ulcer.
15. Tuberculosis of skin.
16. Secondary sarcomatous deposit in rectus abdominis muscle.
17. Osteophytes of dura mater.
18. Tumour, sarcomatous, of dura mater.

19. Cancer of dura mater.
20. Softening of brain from embolism of middle cerebral artery.
21. Lesion of internal capsule which caused brachial monoplegia.
22. Cancerous deposits in brain.
23. Glioma of brain (cortex).
24. Sarcomatous tumours involving posterior roots of cord (dorsal region).
25. Hypertrophy of tonsils.
26. Ulcerative pharyngitis from a case of scarlet fever.
27. Cancerous growth in upper pharynx (epithelioma).
28. Chronic gastritis.
29. Colloid cancer of stomach.
30. Another specimen of.
31. Villous cancer of stomach.
32. Scirrhous cancer of stomach.
33. Ulcer of stomach.
34. Another specimen of.
35. Tubercular ulcer of stomach (part of).
36. Intussusception (ileum into colon).
37. Simple stricture of sigmoid flexure.
38. Perforating ulcer of appendix cæci.
39. Perforating ulcer of duodenum.
40. Another specimen of.
41. Ulcerative colitis.
42. Dysenteric ulceration of colon.
43. Tubercular ulceration of small intestine.
44. Tubercular ulceration of large and small intestine.
45. Villous cancer of descending colon.
46. Colloid cancer of rectum.
47. Sarcomatous tumour of ileum.
48. Abscesses of liver (dysenteric).
49. Melanotic sarcoma of liver.
50. Actinomycosis : liver.
51. Gall-bladder occluded by calculi.
52. Tubercular deposits in spleen.
53. Cancer of thyroid isthmus.
54. Larynx : diphtheria.
55. Œdema of larynx.

56. Tubercular ulceration of larynx.
57. Another specimen of.
58. Ulceration of larynx from case of enteric fever.
59. Epithelioma of larynx.
60. Fish-bone impacted in thyroid angle of larynx.
61. Emphysema.
62. Bullet-wound of lung.
63. Pleuro-pneumonia.
64. Pneumonia with gangrene of lung.
65. Another specimen of.
66. Pneumonic phthisis.
67. Sarcomatous deposits in lung.
68. Acute pleuritis.
69. Acute pericarditis.
70. Endocarditis of right heart only.
71. Aneurysm of aorta, sac descending in front of right heart.
72. Thrombosis of basilar artery.
73. Cancer of kidney secondary to thyroid.
74. Sacculated kidney, removed by operation.
75. Cystic degeneration of kidney.
76. Cancer of bladder.
77. Calculus of ureter.
78. Calculi of bladder composed of cystine.
79. Calculus of bladder with hair-pin nucleus.
80. Fæcal calculoid.
81. Another specimen of.
82. Tunicæ vaginalis distended with yellow lymph from a case of pneumonia.
83. Tuberculosis of testicle.
84. Placenta with two cords.
85. Dermoid cyst of ovary, showing bone with milk-tooth.
86. Dermoid cyst of ovary, showing bone covered with hairy skin.
87. Polypus uteri.
88. Villous cancer of the whole mucosa of uterus.
89. Tuberculosis of uterus.
90. Tubercular salpingitis.
91. Fibrocystic tumour of mamma.
92. Tarsal arch from a case of talipes.

93. Persistent ductus arteriosus, both auricles in free communication.
94. Defect of inter-ventricular septum of heart.
95. Double uterus.
96. Guinea-worm.

R. G. Hebb, M.D., *Curator.*

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